NORTH CAROLINA

Medical Journal

Vol. 17 No. 7
July, 1956

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MEDICINE IN A CHANGING WORLD — DAVID B. ALLMAN, M.D.

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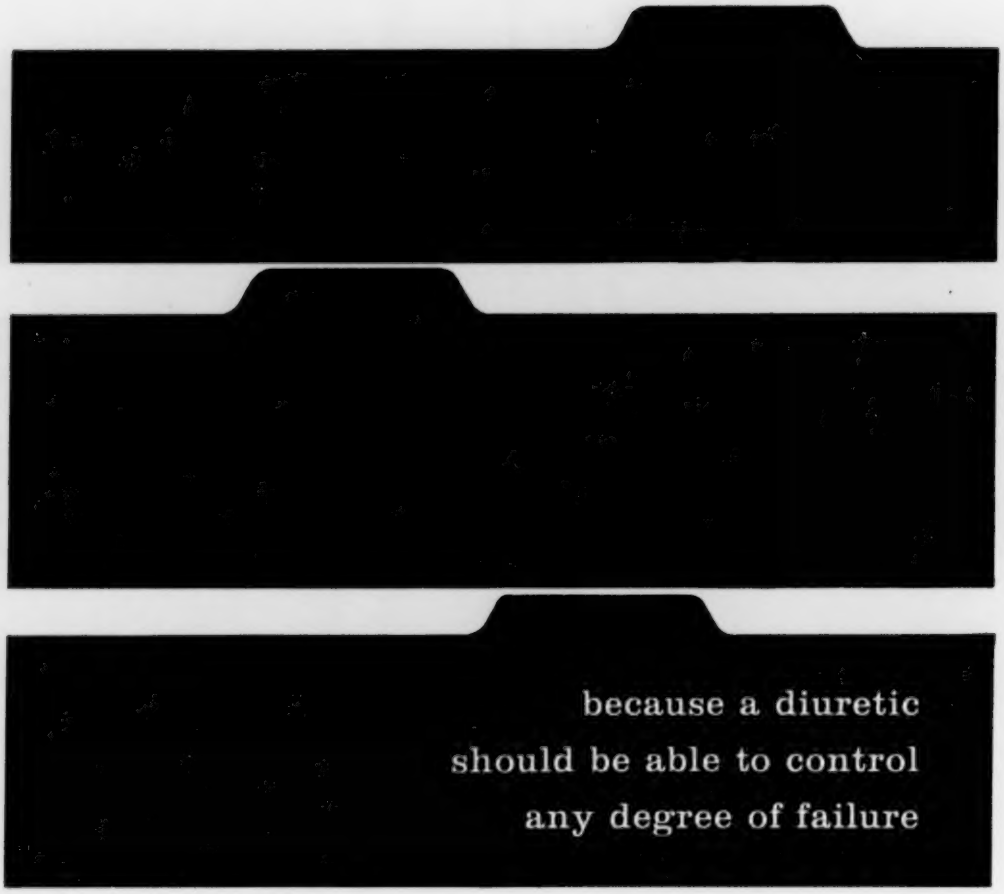

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Official Organ of

THE MEDICAL SOCIETY OF THE STATE OF NORTH CAROLINA

VOLUME 17
NUMBER 7

JULY, 1956

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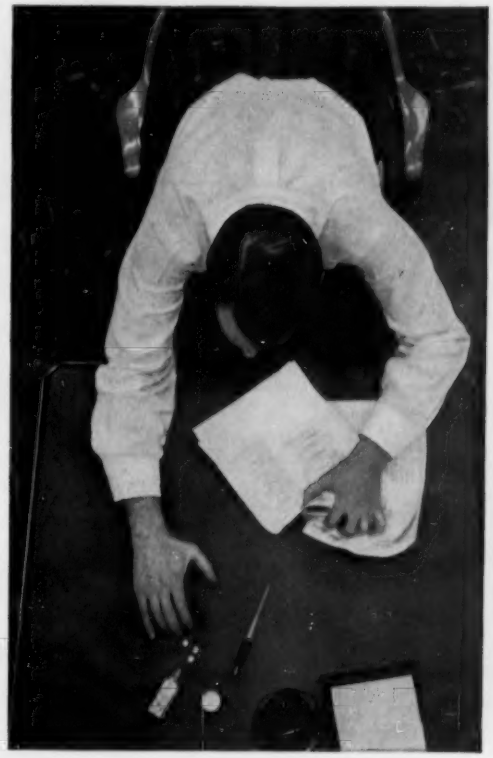

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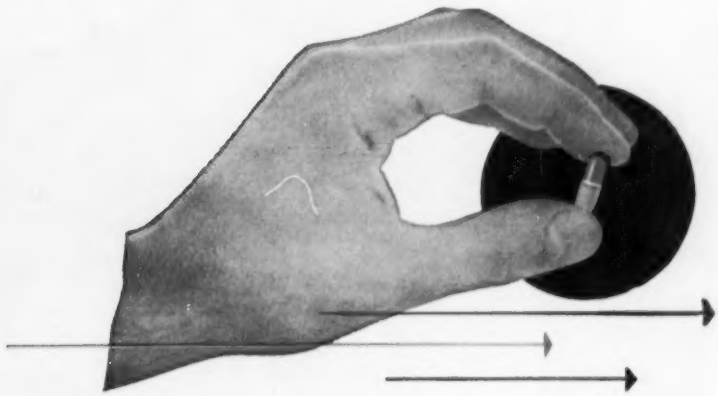

to overcome specific infections that do not respond to any other antibiotics.[1,2,3]

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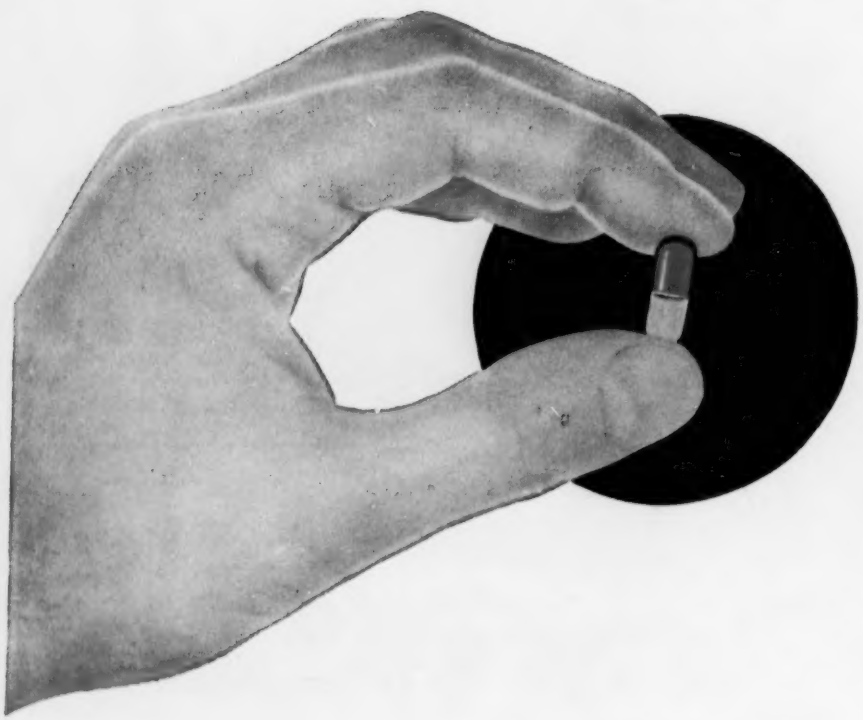

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1. Fazekas, J.F., et al.: J.A.M.A. **161**:46 (May 5) 1956. 2. Mitchell, E.H.: J.A.M.A. **161**:44 (May 5) 1956.

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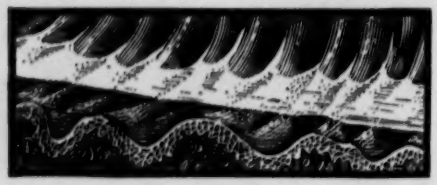

VAGISEC liquid penetrates to trichomonads buried among the vaginal rugae and imbedded in mucus and desquamated cells.

Hidden trichomonads. Trichomonads do not exist in the vaginal secretion alone. They are vigorously motile and burrow deeply into the surface of the vaginal mucosa where cellular debris and mucus cover them. VAGISEC liquid lowers surface tension, penetrates the cellular debris and dissolves mucoid material[1,2] that lines the vaginal wall and lies buried among the rugae. It reaches and explodes hidden as well as surface trichomonads.

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Office treatment. Expose vagina with speculum. Wipe walls dry with cotton sponges and wash thoroughly for about three minutes with a 1:100 dilution of VAGISEC liquid. Remove excess fluid with cotton sponges. Office treatments are an integral part of the Davis technique.

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Active ingredients: Polyoxyethylene nonyl phenol, Sodium ethylene diamine tetra-acetate, Sodium dioctyl sulfosuccinate. In addition, VAGISEC jelly contains Boric acid, Alcohol 5% by weight.

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†Pat. App. for

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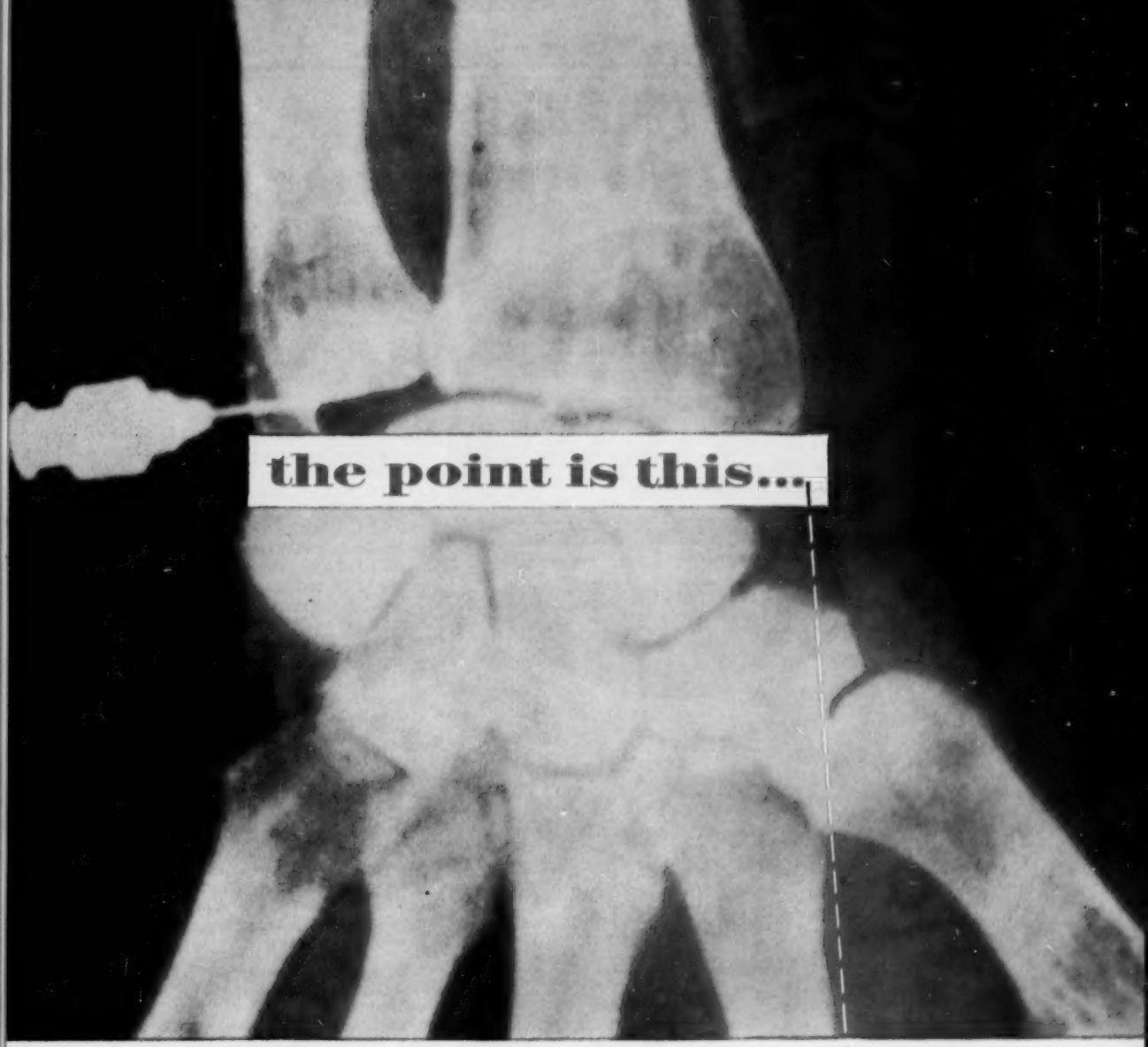

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References: 1. Hollander, J. L., *Ann. New York Acad. Sc.* **61**:511, May 27, 1955.
2. Hollander, J. L., *et al. J.A.M.A.* **158**:476, June 11, 1955.

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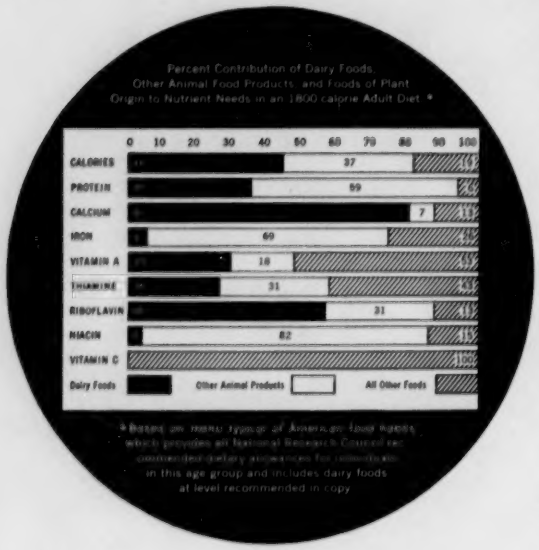
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59
7
60
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1. Weight Reduction Through Diet. Chicago: National Dairy Council, 1951.

2. Young, C. M. Weight reduction using a moderate fat diet. I. Clinical responses and energy metabolism. J. Am. Diet. Assn. *28*:410 (May) 1952.

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1. Johnston, T. G., and Cazort, A. G.: J. Allergy 27:90, 1956. 2. Schwartz, E.: New York J. Med. 56:570, 1956. 3. Schiller, I. W., et al.: J. Allergy 27:96, 1956.

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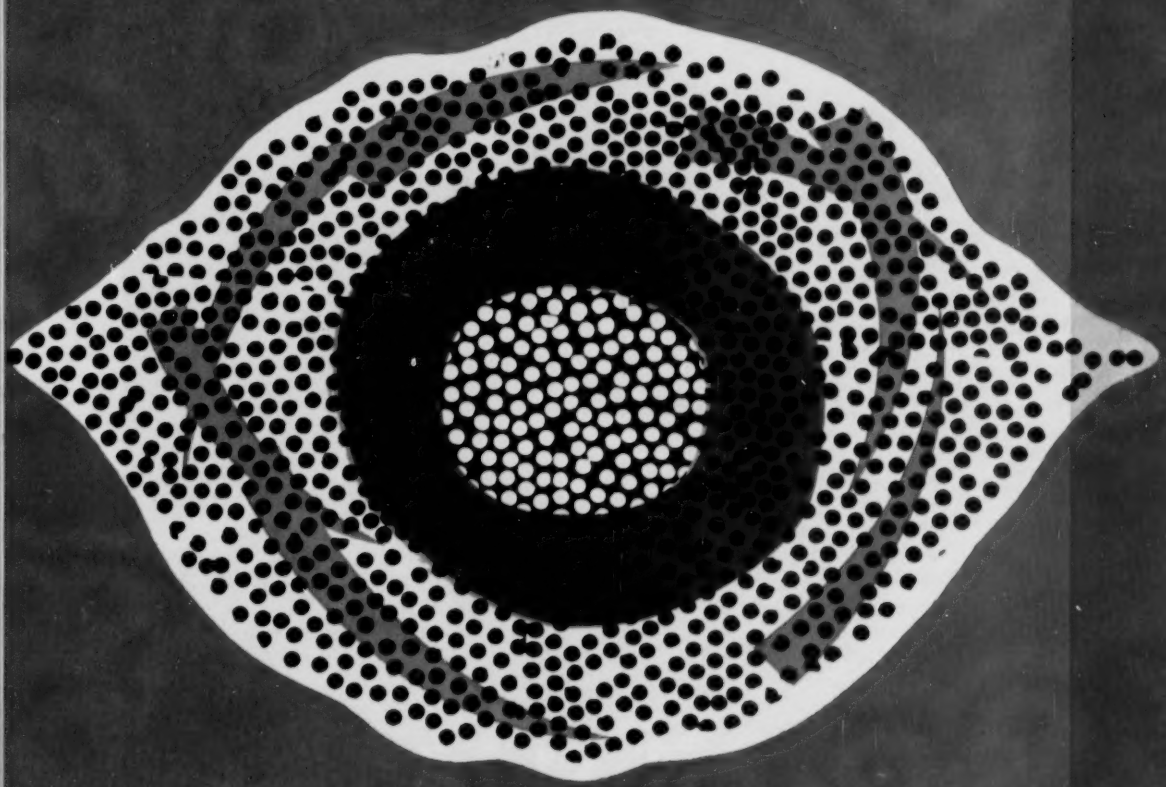

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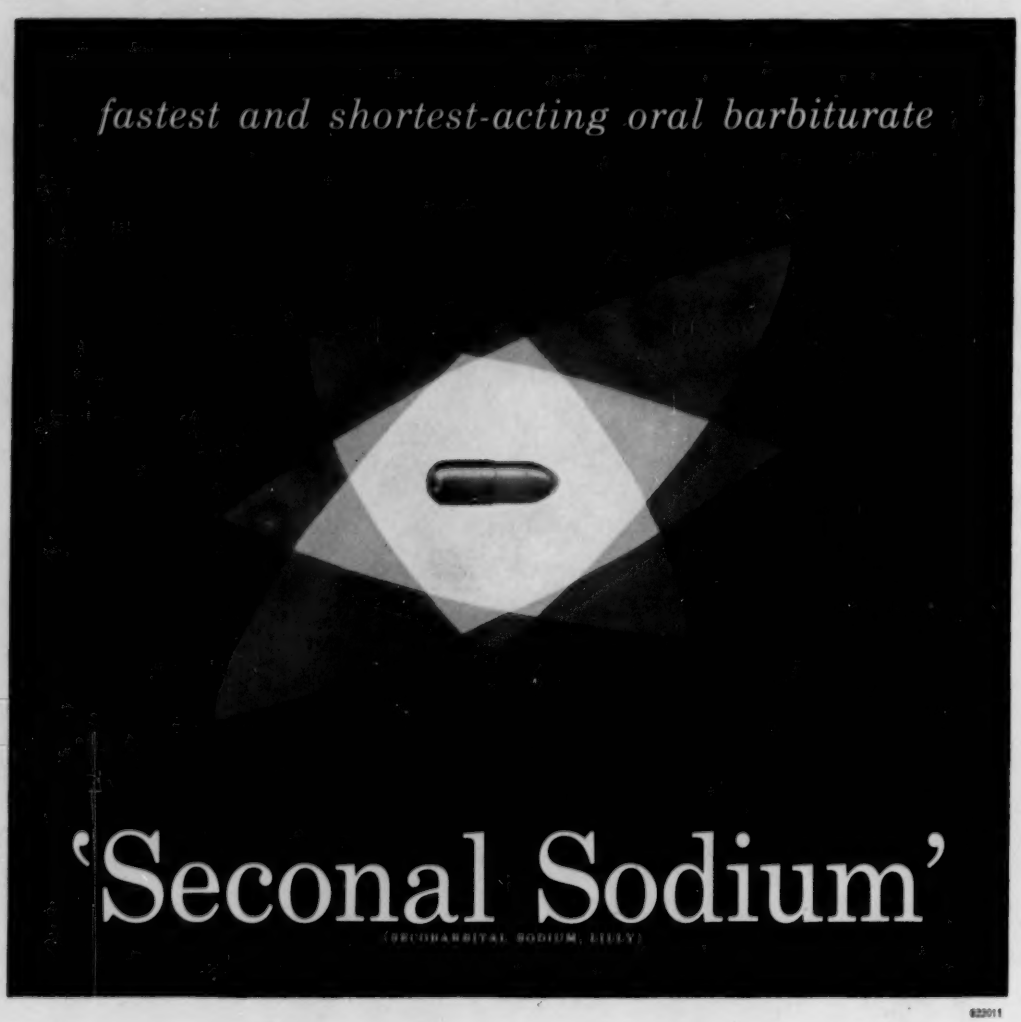

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VOLUME 17 JULY, 1956 NUMBER 7

Medicine in a Changing World

DAVID B. ALLMAN, M.D.

ATLANTIC CITY

In considering what I might discuss here with you today, I knew that the subject of my choice should be one of sufficient importance and of sufficient appropriateness to merit your time and attention. It should, I felt, be significant for you and me not only as doctors but as citizens of the world of today. Ultimately I settled upon "Medicine In a Changing World," because I am convinced that the determining factor for survival—as for success—is the ability to adjust to the changing conditions of life, and to overcome them, rather than be overcome by them.

The challenge of life, it seems to me, *is* change—change which is fraught with peril for those who cannot meet it, but is merely a prologue to new triumph for those who are sufficiently adaptable and resilient to adjust to it.

There can be no growth without change, as there can be no decay. There can be no standing still, either. Change is inseparable from life, and its reverberations seem palely to carry even beyond the frontiers of death. So, we must acknowledge the constancy of change, confront each new change as it comes along, and bend our energies to meeting and besting it. That is our challenge today as members of society, and it is no less our challenge as members of the profession of medicine.

It is not, then, in the fact that changes have occurred and are occurring that our times are remarkable; for as the poet says,

> Each age is a dream that is dying
> Or one that is coming to birth!

But our times are remarkable—if they are not unique—for the extensiveness of the range of changes which have taken place and are taking place, and the swiftness with which these changes follow one another.

Within a half century—a period of time to which many of us have been eye witnesses—such a multiplicity of changes have taken place as seem to me to outstrip the sum of all the changes which have come before. There is scarcely an aspect of life which has not been profoundly affected.

Changes In Our Material Life

Consider the sphere of food alone. . . . The fundamental processes of food raising, cultivation, preservation, and preparation — whether we consider the production of vegetables and fruits or of meats—have undergone radical changes based upon new scientific knowledge applied to plant feeding, crop rotation, irrigation, and mechanization; cattle feeding, transportation, butchering, packing, refrigerating, and canning, cooking, and serving. We enjoy today, as the ordinary accommodations of our tables, viands which in variety and excellence were simply undreamed of, impossible luxuries 50 years ago.

There has been, truly, a happy conspiracy of improvement and progress. Properly basic to this progress and chiefly responsible for it have been scientific inventions and scientific production methods. We have utilized water, air, electricity, coal, fuel oils, and natural and artificial gases to operate the countless new engines and mechanical wonders which add to our ease and comfort. Now we are well on the way to the control and utilization of atomic energy!

Within the memory of living men the gasoline internal combustion engine, the turbine engine, the diesel, the turbo-jet, and the jet have all added their power to the dreams of

Read before the First General Session, Medical Society of the State of North Carolina, Pinehurst, May 1, 1956.

men, to make even the most fantastic and ambitious of those dreams come true. The automobile alone has made a contribution to the physical, social, and economic growth of our country sufficient to make this age forever memorable. It has really made us, in a physical sense, the United States of America; for by the network of roads which it has necessitated, it has practically eliminated distances which isolate and insulate and has brought us all—physically at least—nearer as neighbors.

Railroads and airplanes have completed the conquests of distances until today we live in a world of physical intimacy, because the modes of travel have shrunk the severing wastelands and have bridged even the broadest oceans. This is change indeed, making us accessible to foe as to friend, and confronting us with new problems in consequence.

Turn where you may, the story is the same. There have been growth and improvement in every aspect of our material life. Incredible machines decrease man's industrial burdens, but by their productions so increase the national wealth as to afford the worker better standards of living and higher income, though progressively lightening his work load.

In his home the average citizen of moderate means today is served by machines as hitherto no person of wealth was ever served by domestic help. Machines keep his home cool in summer and warm in winter; they warm his water for bathing and cool it for drinking; they cook meals, wash and dry dishes, launder clothes, give him the news of the day, and supply entertainment and instruction by both audible and visible means. By means of electric eyes and closed circuit shortwave radio nursery-units, today machines even mind the baby. About the only things machines do not do for us is beget and bear our children, and we are still too set in our ways—and pleased with them—to want them to do that.

Changes In Medical and Surgical Care

Changes in the sphere of medical and surgical care and treatment have been little short of miraculous.

There was a time—and that not long ago—when the members of the medical profession, in America as in the rest of the world, stood in appalling helplessness before the powers of disease and death. The potent processes of infection and debilitation were little understood and ineffectually resisted. Indeed, the basic processes necessary for the maintenance of healthy living were only hazily guessed at. Then, bit by bit, in an atmosphere of anguished hopes and earnest strivings, the balance of power shifted. Step by step the science of medicine expanded; our knowledge of the true causes of disease conditions increased; and methods were discovered and techniques evolved—in every department of professional endeavor—which have enabled us to enter into the homes and lives of our fellowmen with the gifts of healing and of health.

The magnificent consequences are familiar to us all. No longer need man creep through life in the oppressive and baleful shadows of disease and death. Now—with buoyant step, in the full sunshine of vigorous, protected health—he can stride along the road of life, free from fear and pain—as in all time, he was never free before. . . .

These are changes which medicine has brought about, good changes for which we can and should all be universally grateful: to man, for his unselfish genius and industry; and to God, for His loving providence.

Relatively few are the diseases that continue to defy us. The shock troops of science are vigorously assaulting the gates of the fortresses of disease which still hold out. If man were not by nature doomed to die, science might even aspire to an eternal triumph. As it is, the average human being's life span has become so lengthened as to pose other new problems such as men have never been called upon to deal with before.

Changes In Our National Character

In view of all these accomplishments, one might expect that these would be halycon days of honor and attainment for the men and women of medicine and of widespread satisfaction to all. But to our sorrow we know that such is not the case. Despite the immense benefits which the doctors of today can confer—benefits ranging widely beyond the most rosy dreams of the doctors of other generations—the doctor's place in society, and in the hearts of his fellowmen, is less honored and less secure than it was when he had fewer benefits to bestow. This is because of other changes which have occurred and are taking place—changes socio-economic in

character—changes which we must recognize and deal with for our own good and for the good of society of our day.

Our spiritual heritage

Whether we realize it or not, we all entertain basic philosophic concepts which become the principles of action by which we live. For most of us these concepts are not the results of our original thinking. We adopt them from more vigorously thoughtful men who are, by natural abilities, leaders of thought and of action. Such men wield great influence for good or for evil over the destiny of a nation and its people. We were fortunate in the United States of America that in the days of our beginnings and of our early growth we had high-souled and high-minded articulate leaders who made popular conceptions and principles the most wholesome and the most noble that have ever inspired a nation.

Our founding fathers helped us to realize that, for the good of all, the rights of the individual in any free society must always be preserved inviolate against invasion. They led us to disapprove, and actively to resist as tyrannical, government not based upon the consent of the governed. They made us understand that liberty is the most desirable state for man—enabling him to direct the course of his own life in the pursuit of his personal happiness. And, as a corollary to the concept of individual liberty, they developed an appreciation of the necessity of a spirit of independence and self-reliance. Then they insured this spirit of freedom and independence against deterioration into lawlessness and anarchy, by inculcating the concept of the brotherhood of men under the fatherhood of God.

Love was the leaven which they employed to make certain that the searchings and seekings of vigorously free and independent people would not degenerate into a conflict of selfish desires, but would consolidate into a national strength and a national greatness exemplifying the tranquility of right order. They united our citizens in a dedicated bond of brotherhood and gave to us—and to the world — a new nation, of unprecedented strength and unrivaled greatness.

Love of liberty, responsibility, self-reliance, industry, and resourcefulness. . . . . *These were* the traits typical of American citizens. Because of them our country grew and prospered. No obstacle was too great, no barrier too broad for the zest of free men, determined by their own strength to achieve security for themselves and for their beloved country. No competition was too keen, no threat too formidable for men and women dedicated to seek and achieve a fuller, freer life. Nothing was able to impede the sturdy march of America and Americans over the road of freedom to the heights of accomplishment and success—nothing, that is, until the corrupt concepts of materialism tainted the minds, contaminated the hearts, and enfeebled the spirits of men.

Growth of materialism

It was not in America only that the philosophy of materialism made successful inroads. After World War I — which made death, destruction, and privation almost universally familiar — weary men and women were ready for concepts that substituted superficial pleasure for substantial happiness, proximate riches for ultimate wealth, thrills for genuine satisfaction, sex for love, cleverness for wisdom, expediency for principle, and selfishness for sacrifice. Soon success came to be measured not in terms of what had been accomplished but of how little one had to do and how much one managed to get.

The essential drive of Americans remained, but now its character and direction had changed. No longer was it unselfish, moving outward from generous hearts and spirits determined to share their treasure; now it became selfish and narrowing, accepting fleeting material rewards at the cost of eternal spiritual values. In consequence, we learned the deep and bitter truth of Oliver Goldsmith's lines:

> Ill fares the land to hastening ills a prey,
> Where wealth accumulates and men decay.

The depression made clear how much had changed. Some Americans—whose ancestors had spurned money for the freedom of living —wondered if—their money gone—life was worth retaining. Others decided that the task of recovery was too much for them and sought means of bartering their freedom for security. But—thank God—not all so reacted! Some there were who learned that the things of material character which misfortune can sweep away are not essential to human life

and happiness. These people found that, in adversity, love and loyalty and justice and truth remain unaffected, and in some instances grow deeper and richer. Such people did not falter; taking heart they re-addressed themselves to the task of making a good living, knowing—what they had not known before—that the making of a good living is definitely secondary in importance to the making of a good life.

The struggle between the philosophy of the material and the philosophy of the spiritual ideal continues. Allegiances are still divided. Our ranks are split; therefore our strength is weak. Today we are a people torn between two influences: the influence of the past—of our traditions and lineage—moving us to exalt freedom, personal responsibility, and individual initiative; and the influence of the present—an influence of opportunism—moving us to get rather than to give, to prefer soft security to militant freedom, to want the laxness of personal irresponsibility, even when it means ceding to other agencies — especially of government—the responsibilities we should retain and discharge ourselves.

There is mounting evidence to show that we are in danger of becoming a weak and an effete people. We are manifesting alarming inclinations to sell our birthright for a mess of pottage. And the tragedy of it all is that deep down we retain the old undeniable and ineradicable aspirations, which our forefathers knew were natural to all men. In consequence, if we ultimately get the mess of pottage, we will inevitably loathe it.

This is the changed and changing world which confronts us Americans today. Thus far the changes have been insidious and gradual, but they have been indicative of a progressive weakening of our national character that could not be more ill-timed. A titan of tyranny is even now contending with us, and with all other free nations, for the dominance of the world. It typifies despotism and all that is contrary to our basic ideals and aspirations. It offers the irresponsibility of bondage for the responsibility of freedom. It exalts the rights of the state over the rights of the individual. It holds out material rewards or punishments as a substitute for spiritual satisfactions. Fear and pain and unrelenting oppressions and cruelties are its regular instruments of administration. It knows nothing of justice or charity. Thus slavery today stands toe to toe with freedom. Now is the time, therefore, when freedom must find full and effective vigor or accept the ignominy of defeat.

Wanted—A New Revolution!

In the light of all these circumstances, it seems to me that what we Americans need most today is a new revolution—a good revolution! I use the term in its literal sense. When anything revolves, it pivots through a full circle to return to its starting point. We Americans need to return to our starting point—to our early vigors—of idealism and dedication. There is work to be done of such magnitude that each must do his full and conscientious best if we are to have a decent chance to win and to survive.

In these times every action of any citizen which further enfeebles himself or impairs our national strength is an act of treason. Selfishness, irresponsibility, indifference, opportunism, dishonesty, injustice, and anything else that makes for diminished individual work or lessens our common cooperation is a blow at the heart of our country today. We need a good revolution—a return to the true and lasting good as our fathers saw it and passed it on to us. As citizens and as doctors we must do all in our power to bring that revolution about.

The men and women of medicine have shown no greater immunity to the corruptions of the short-sighted materialism which grips the world than have any others. This is a time for all to reclaim the best of the past and to re-dedicate themselves to the best that the future can bring. By word and by action we should strive individually to show the way—through unselfish service and high-souled fulfillment of our duties—back to the true character of the American citizen, which once we owned. The good that continues we must acknowledge and advance. The evil that exists, we must dig out and destroy, or else suffer it to destroy us.

The time calls for good doctors everywhere, and for good citizens. Nothing less will do. Our problems are great, therefore our strength must be great, also!

Our forefathers are remembered and revered for the effectiveness of their resistance to the tyranny which confronted them in their times . . . . the tyranny of kings.

May we be likewise remembered by those who follow after us for having had sufficient vision to recognize the twofold tyranny of *our* times—the tyranny of soviet despotism that threatens from without, and the tyranny of selfish materialism that gnaws from within. May we be remembered not only because we had the vision to perceive the evil, but because we had the courage, the high valor, effectively to resist it!

Positive and Negative Aspects of Cerebral Cortical Functions*

D. DENNY-BROWN, M.D.†

BOSTON

In memory of Ross Herman Jennings Bryson, whose endeavor in the field of neurology was cut short so tragically, I would like to discuss some of the difficult problems which confront those interested in nervous function.

In recent years great strides have been made in the understanding of the anatomy of nervous pathways and connections. Yet the manner in which these structures work together in harmony to produce the activity we call behavior is very imperfectly understood. Every day in the clinic we see disorders of motor behavior such as spasms, involuntary movements, rigidity, or tremor which we recognize as belonging to one or another category of disease, relating to damage in this or that structure. But if we ask the meaning of these various nervous manifestations, and of their relationship to natural function, we receive only partial and unsatisfying answers from neurophysiology. The old notion that the basal ganglia regulated body posture, for example, so that lesions of them led to abnormal attitudes receives no support from what is known of the postural and righting reflexes. We see no purpose in choreic movements or tremors, which could be as much the whim of the Devil himself as of any mechanism known to the physiologist. Yet, in order to understand the pathogenesis of these movements and to devise better methods of treating them, we must know more of their essential nature. With old charts of the "excitable cerebral cortex" it was possible to liken the precentral gyrus to a hypothetical keyboard for "willed movement." But now there are known to be at least three excitable areas for movement of body and limbs in the cortex, two distinct areas from which speech can be affected by electrical stimulus, three areas for eye movements, and innumerable areas for visceral effects. In the face of such complexity the whole question of the meaning of such "representation" has to be considered anew. The clinical neurologist continually feels the urgency of these questions, and imperfect though our own ideas of these things may be, a discussion of our changing viewpoint may be a stimulus to others.

The accumulation of a great mass of observational data following improvement in methods of electrical stimulation of the brain is essentially anatomic information, indicating the existence of channels of connection, and sometimes the type of interrelation of nervous structures. Though electrical stimulation may closely simulate the effect of epilepsy and is necessary for the analysis of the symptomatology of that disorder, it does not reveal the way these paths function or even the manner in which their derangement disturbs function. Classical neurology has devoted too much attention to "localization," a process designed to point to the incriminating agent with a view to its radical surgical excision. Localization has become a precise procedure for the neurosurgeon, largely owing to the development of radiographic methods that have diminished the value of close clinicoanatomic deduction. The textbook "spicule of bone," removal of which restores complete normality, is a myth. In relation to the problems that face neurologic medicine pin-point localization of "function" is an ela-

*Fourth Ross Herman Jennings Bryson Memorial Lecture, delivered at the University of North Carolina School of Medicine, Oct. 20, 1955.

†J. Jackson Putnam Professor of Neurology, Harvard Medical School, and Director, Neurological Unit, Boston City Hospital.

borate diversion, for it continues to distract research from the study of function itself. Nevertheless, it is in relation to some of the most daring and remarkable feats in neurosurgery that our problem has become most acute. Following the operation called "hemispherectomy"[1] for certain types of severe disability, it is apparent that an improvement in the performance of the opposite limbs is frequently noticed, in spite of such extensive removal of brain substance. In addition there may reappear a range of sensory reactions that is not possible following some types of small partial lesions of one hemisphere. If the thalamus is included in the excised hemisphere, such sensory discrimination as coarse localization of touch, for example, can return in the opposite limbs, as was demonstrated to me recently in a patient of Tonnies of Cologne. The conclusion that there must be some error in the conventional views of the function of the thalamus and cerebral cortex seems inevitable.

For a simple performance such as scratching an irritating area of skin, or coughing, or urination, the movement is initiated from the body itself, and is clearly perfected as a spinal or bulbar reflex. For such responses the cerebral cortex appears to have the property of a degree of control, usually of suppression, until the occasion is appropriate. If we wish to define a movement directed to any external object, such as putting food in the mouth, throwing an object or reaching for one, or putting on a garment, we have to relate it to purpose. To find more about the activity commonly called "willed movement," or adapted motor behavior, and its disorders, it seems likely that we have to define them in terms of the environment. The question we must ask is "what is the adequate stimulus?" Since we cannot ask that question of the mind, we must adopt an objective approach and content ourselves with the study of very simple cortical reactions.

Forced Movements

Following some types of frontal lobe lesion in man, a curious involuntary motor disturbance of the opposite limbs frequently appears. Early investigators had distinguished a difficulty in relaxing the grasp of the hand called the "grasp reflex," and an exploration of space by the affected hand called "forced grasping." These responses usually occurred together and in the beginning were thought of as preservation of an idea; when this was shown to be an untenable explanation, they were classed as "forced movements." Some saw in these responses a loss of a postulated cortical inhibition, and devised the term "tonic innervation" to indicate the consequent persistence of effort. Since we do not understand the meaning of the change in function we call increase in tone, this notion has not been helpful.

We ourselves[2] were able to show that the "grasp reflex" and "forced grasping" are in fact automatic responses to stimulation, which was primarily tactile or contactual. They are responses to events outside the body. Though the movement was complex, it could be resolved into simple components for which there was an invariable definable adequate stimulus. The only way the subject can relax is to avoid the stimulus or be presented another stimulus with an opposing effect. The two types of grasping are in fact two degrees of complexity of the same phenomenon, the one a simple fixed invariable response to a moving tactile stimulus, the other an adaptable, projected response in space to the same type of stimulus. Thus we ourselves speak of the true or simple grasp reflex, and the instinctive grasp reaction.

At this point the situation became confused because certain physiologists said that the grasp reflex was present in the thalamic monkey, and was affected by the labyrinth in such a way that it was more easily obtainable in the undermost limbs when the animal lay on its side. Fulton[3], for example, describes it in this way. It is important to realize that the grasp reflex we see in man is not thus affected by the labyrinth, and that the phenomenon spoken of by Fulton is what we call the "traction response"[4]—an entirely different reaction, a reflex response to simple proprioceptive pull on the limbs that appears with decorticate spasticity.

The traction response is a direct response to stretch of the muscles, a stretch reflex, of such kind that stretch of the flexors of any of the joints in the limbs induces contraction in the flexors of all joints in that limb. In a patient you would call that hemiplegic spasticity, and indeed the flexed attitude of the upper limb in hemiplegia is due to the overaction of the reflex[5]. The grasp reflex

requires a moving tactile stimulus; when once that is given, then, and only then, a pull on the finger flexors induces a strong opposing contraction. This grasp contraction now continues as long as the pull continues. The grasp reflex is therefore a "triggered response." A special tactile stimulus triggers or conditions a proprioceptive response that is not otherwise active. The grasp reflex and the essential elements of orientation and pursuit in the instinctive grasping can be present in states of clouded consciousness where volition is absent. Their inborn instinctive automatic character is evident in their course of development in the infant.

Release of Function and Disintegration

Observation of patients suffering from progressing types of frontal lobe lesion, such as frontal lobe tumor, showed us that what we called "instinctive grasp reaction," "grasp reflex," and "traction response" were not absolute states but were stages in a process of disintegration of ability for movement, progressing to simple sapsticity[5a], and that if such a lesion was such as to be followed by recovery of function, these phenomena reappeared in reverse order (fig. 1). Indeed in common types of hemiplegia the process of recovery of ability for movement goes through the stages of spasticity, traction reaction, then grasp reflex, and instinctive grasping precedes the final recovery of dexterity in such cases as finally reach that stage[5b].

Our view of these stages in the disintegration of the cortical control of movement[5a] is that the most elementary segmental reaction is the stretch reflex, which the labyrinthine and neck reflexes through brain-stem mechanisms coordinate to form the "traction response." At higher, but still subcortical levels, the traction response is in turn subordinated to cutaneous stimulation, and triggered by only the appropriate kind of cutaneous stimulus to allow the grasp reflex. The highest form of automatic adaptation takes the form of delicate orienting movements of the limb perpendicular to the point of contact so as to bring the palm of the hand into relation to the stimulus where palpating and eventually a grasp occurs. This is the instinctive grasp reaction, for which a cortical mechanism is necessary. After pyramidal section in the monkey, Dr. Twitchell and I found that of this series of responses only the traction

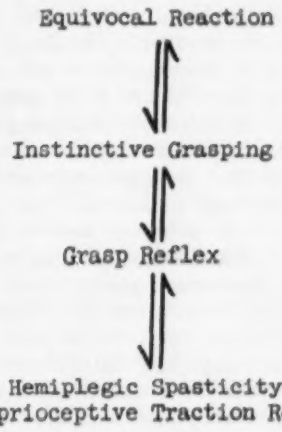

Fig. 1. Relationship of the various stages of disintegration and recovery of stereotactic reactions.

response was present, often feeble owing to the great depression of all function that we call pyramidal shock[4a]. In terms of behavior in response to stimulus, the function dependent upon the integrity of the pyramidal tract is a form of proprioceptive reflex adapted to specific stimuli, chiefly contactual, in the environment. Such stereotactic motor behavior as palpation and tactile exploration is its general field, and it can be seen in man to be readily facilitated by the visual and other stimuli that most clearly activate "purposive" movement. Although the true grasp reflex is not elicitable in the usual acute thalamic animal, it may in time reappear after bilateral excision of all rolandic cortex in the monkey. It is therefore regarded by us as a primitive subcortical reflex upon which exploratory tactile behavior oriented to the environment by the cerebral cortex is based.

After frontal lobe ablation in the monkey the instinctive grasp response appears immediately in the opposite limbs, but in a series of such animals we have found[6] that the response progressively altered in the weeks following operation. In the second week the affected hand reaches out to grasp any prominent object for a time, and by the third week touches it transiently and grasps it only briefly if at all. But now all manner of objects must be touched as part of a stereotyped restlessness, especially if the cage was small. This compulsive tactile behavior took about three weeks to develop. We believe it

is the basis of the great restlessness of animals with bilateral frontal lesions. They pace their cage incessantly, touching any prominent objects over and over again. The reaction we call instinctive grasping is but a sign of a much more extensive change in total behavior that is apparent also in patients after frontal lobe lesion.

Such compulsive behavior has all the appearance of "release"—but what is missing? It is not just that these animals or patients are uninhibited in general. In response to some kinds of stimulation, for example, a pin prick, they are curiously indifferent. They pay less attention to a threat from the affected side, and they also miss food on that side, so that the older investigators of frontal lobe function frequently referred to "hemianopia"[4b]. They are overreactive to some kinds of stimulus, particularly tactile, and underresponsive to others, particularly noxious, visual and auditory.

Our approach to this problem was to try to find if removal of any one specific area of the frontal lobe was responsible for these changes. It was found that removal of area 6 or area 8 could initiate them, but only transiently. Excision of the supplementary motor area of Woolsey[7] likewise liberated grasping, but only for one to two weeks. Area 24, the cingulate gyrus, released them for a longer period, but only with ablation of *all* these areas was grasping regularly present for months at a time. What had gone? If one touches the hand of an intact monkey (or the human hand, if its owner has his attention directed elsewhere), there is often a slight unconscious movement of withdrawal. Another touch and it withdraws further. We term this the "avoiding response." In the monkey whose frontal lobe has been removed, the response is no longer elicitable. After removal of the left frontal lobe, there is only grasping or tactile exploration in the right hand, whereas the left hand exhibits a very facile withdrawal or "avoiding" response. Damage to the cingulate gyrus, and to a less extent areas 6 and 8, abolishes the "avoiding response" and releases its opposite, instinctive grasping[4b].

The Instinctive Avoiding Reaction

In patients suffering from disease affecting the parietal lobe of one hemisphere, we have noted an unusual posture of the outstretched hand, gradual hyperextension of the fingers and wrist[8]. If the palm of the hand is stroked lightly from palm to finger tip, this posture becomes exaggerated and the whole arm is raised ("avoiding").

In some patients stroking the hand in this way when it is at rest by the patient's side will lead to raising of the whole arm, so that the hand is withdrawn from the stimulus ("levitation"). This reaction is prominent when lesions involve the lateral and more anterior aspects of the parietal lobe. After gross parietal lesions it may be facilitated by vision, so that the fingers extend and the arm rises at the approach of the observer or his hand. It appears in the right hand following left parietal lesion[9] as well as vice versa, and is associated with a curious lack of interest in the patient with regard to the affected side of his body and of his environment. Other investigators[10] have occasionally noted such postures and termed them parietal "apraxia." We have observed this reaction in relation to the extensor phase of some types of mobile athetosis. We found that the instinctive grasp reaction is not obtainable in the hand affected in this way, and the reaction is indeed the opposite of the grasping reactions. The patient can usually use the affected hand, but overextends the fingers in a clumsy way when he attempts to grasp an object, a phenomenon that has usually been attributed to sensory "ataxia," though sense of position is in fact not necessarily affected.

After ablation of the parietal lobe in the monkey, an overactive "avoiding response" is found in the opposite limb. We have studied this reaction experimentally in parietal, temporal, and occipital lesions in monkeys, many of them with the assistance of Dr. R. A. Chambers. The detailed protocols will later be presented elsewhere, but here I shall discuss our more general clinical conclusions, which are readily observable by simple clinical examination.

In response to unilateral complete ablation of the parietal lobe, it is obvious that the opposite hand not only pulls away from any contact, but the animal retreats from any visual stimulus on the affected side. He will turn the affected side to the stimulus and back round in a circle to avoid it. Thus after left parietal ablation he turns his right side to the visual stimulus and backs to his right side, whereas after left frontal abla-

tion, he advances and deviates to the left, ending in circling forwards to the left, if space permits. Following symmetrical bilateral parietal ablation the animal becomes a timid creature that tends to shrink into a generally flexed posture in response to any stimulus. He even closes his jaw when food is put to his mouth, and has to be fed by tube for the first few days. Partial ablations show that tactile avoiding is released following ablation of the postcentral gyrus, and avoiding in response to a visual stimulus following ablation of the posterior half of the parietal lobe. Ablation of the central part of the parietal lobe alone, area 7, releases both types of avoiding, but more transiently. Release of tactile avoiding is associated with over-reaction to pin prick, vigorous flexion. In human cases there is seldom any remarkable change in the sensations perceived, though in some with partial lesion of area 3 I have found hyperesthesia without sensory loss. It is important to note that when a large ablation is bilateral, the whole behavior and character of the animal is permanently altered towards compulsive withdrawal.

In an animal the grasping reactions are associated with a response of the suspended animal to contact with any solid object that is called the placing reaction. When a paw touches a surface or its edge, the paw is placed on the surface. The stimulus can be tactile or visual. When the parietal lobe is removed, the limb no longer shows placing reactions and is adjusted to an approaching surface only after very great displacement, the "proprioceptive placing reaction" of Woolsey and Bard[7]. After unilateral parietal lobe ablation in the monkey, not only is grasping, tactile and visual placing lost, but also the proprioceptive placing reaction. Woolsey and Bard were puzzled at finding that after ablation of the other parietal lobe, the proprioceptive placing reaction in the limbs returned.

In detailed studies of long-term survivals after unilateral parietal ablations, Peele[11] found that proprioceptive placing returned after several weeks, and in some animals tactile placing after nine months. Removal of area 3 produced the most lasting defect. Proprioceptive placing was clearly present in our monkeys with bilateral parietal ablation, and in the following months gradually became more facile, so that any firm contact with the limb again elicited a placing reaction, though light contacts still elicited lively withdrawal or "avoiding." This points to a great difficulty in cortical physiology; the reaction itself is not lost, it is de-differentiated—becoming less discriminating. The term proprioceptive placing introduced by Woolsey and Bard to describe the displacement of the limb required to stimulate placing is too arbitrary. A large area of contact is the necessary stimulus to elicit such placing. The area of contact required to stimulate the reaction gradually lessens with time. Just how much the initial depression of reaction is due to the presence of the contrary avoiding response is difficult to determine, but it certainly never recovers its normal delicacy and precision. Accordingly we consider it both depressed and de-differentiated after parietal ablation. Placing can be demonstrated in man, most easily in children, and is another inborn instinctive exploratory reaction directed into the environment by contactual stimulation. The depression of exploratory reactions parallels the "loathness to move" of the affected limbs noted by Peele[11] after parietal ablation, and frequently seen in man with parietal lesion.

We were interested in the reactions of the animal after biparietal ablation, and found that it could right itself in falling free in air, even when blindfolded. We therefore sectioned the eighth nerves in order to exclude the labyrinthine reflexes, and found that the animal could then no longer right itself when falling even with the eyes open. This and control experiments showed that the optic righting reflex was absent after bilateral parietal ablation. But more important for our present argument, after section of the eighth nerve the animal assumed an extraordinary posture of general flexion. The limbs resisted, by a steady contraction of the flexors, any attempt to extend them passively. Yet the tendon reflexes were unaltered. The animal, if left alone on a surface, could right itself and use its limbs in walking and eating, but any new stimulus caused them to fly into extreme flexion. We believe that this response is fully explained by the extraordinary degree of overaction responses, now producing a replica of the condition we call flexion dystonia in the clinic. A soft plastic rigidity in the flexors found after parietal lobe ablation had become greatly ex-

aggerated when the remaining source of positive extension reactions, the labryinth, had been eliminated.

From such experiments it was concluded that the peculiar behavior of the monkey following bilateral extirpation of the parietal lobes was compounded of many reactions opposite to those seen after frontal lobe ablation. Reactions to the environment after frontal ablation were in terms of positive exploration; after parietal ablation they were dominated by withdrawal or "avoiding" reactions. In each case the reactions of the hand to tactile stimulation were but part of a total behavioral reaction to the environment, so that after bilateral frontal ablation the animal is fearlessly restless, after parietal ablation anxiously withdrawn and timid. With bilateral large ablations the changes in behavior persisted for many months and are probably a permanent alteration of the cerebral reactions.

By a series of more extensive ablations it was found that even greater prominence of tactile avoiding reactions was produced by bilateral ablation of occipital and temporal cortex as well as parietal lobes, leaving only frontal lobes and insulas. The visual avoiding reactions, indeed all visual reactions except blink to bright light, are then absent. The animal with frontal lobes and insulas alone can nevertheless show a remarkable degree of movement. He is not spastic, though his attitudes are stiff and awkward, showing a preponderance of flexion in all movements and attitudes. He can climb down from a shelf, and can feed himself, but he is a ridiculously timid creature, screaming when touched and striking blindly at all contacts except on the mouth. He has the most sensitive avoiding reaction to very light touch, even on only a few hairs. After bilateral section of the eighth nerve such animals showed intense flexion dystonia in response to any stimulus, for example, if touched, picked up, or laid on their side, but were nevertheless able to walk and to get to their food, if left gradually to relax. Overactivity of avoiding reactions, with great sensitivity to any stimulus including very light touch, was in part determined by the unopposed activity of the oral part of the cingulate gyrus, but its great intensity in the form of dystonia following eighth nerve section has many of the characteristics of release of the low level mechanism of withdrawal responses.

Ablation experiments show function only in terms of negatives. The parietal lobes appear as the source of positive tactile and visual reactions to the environment. It is stressed that these are cortical responses, and that whereas the zones of arrival of specific senses in the cortex are essential for the reactions of each specific type of sensation—for example, postcentral gyrus for tactile responses — the reactions are equally abolished by ablation of the interparietal cortex alone or of precentral gyrus alone. Similarly the integrity of the precentral gyrus is not alone sufficient for the instinctive grasp and exploratory reactions, though its presence prevents the subcortical release of the traction response. Parietal ablation disturbs the equilibrium of cortical reactions without leading to subcortical release. We have referred to such disequilibrium of reactions at a cortical level as "transcortical release"[4b]. The cingulate gyrus, and areas 8 and 6 are concerned in tactile avoiding reactions.

The Visual Avoiding Reaction

Where is the mechanism of the visual avoiding reactions that are seen so prominently following ablation of posterior parietal cortex? Klüver and Bucy[12] described a curious state following bilateral temporal lobe ablation in the monkey. The animal made a continual exploration of every particle in its cage, examining it closely, often with the lips. He picked up and examined over and over again every article, edible and inedible, that came within his vision and reach. Klüver and Bucy thought this behavior was a variety of agnosia. It was associated with sexual hyperactivity and stereotyped restless behavior called "antics."

In our own experiments with bilateral temporal lobe ablation in the monkey it seemed clear that the animal could distinguish edible from inedible particles, discarding the latter before it reached the lips, but nevertheless picking them up again and again.

Our animals were tame and friendly but could still be provoked to anger. The grasping and palpatory reactions were facile, and avoiding was present only in response to a painful stimulus. There was no visual avoiding, but in its place was a compulsive ex-

amination of every visual stimulus that determined restless re-examination of all particles, specks and irregularities of the environmental pattern. The lips were more frequently used for examining strange objects than in the normal monkey, but by no means exclusively so. There seemed to be no error in identification, for if the animal was hungry, particles of food could be unerringly selected from a mixture. We were not impressed by sexual overactivity, though compulsions to tactile stimulation and palpation, including those of sexual significance, were sometimes observed. There was also some restlessness, resembling that after frontal abation. For us, therefore, the compulsive exploratory behavior of bitemporal ablation in the monkey, resembling similar compulsions in man, which Wernicke called "hypermetamorphosis," is a visual exploratory compulsion, directly comparable to the exploratory tactile compulsions of the animal after bifrontal ablation.

The positive aspect of temporal lobe function is seen in the extremely timid animal after bilateral parietal lobe ablation. If this operation is combined with ablation of area 17, leaving the lower parts of areas 18 and 19 attached to the temporal lobes, and the frontal lobes intact, an extraordinary negative withdrawal from light occurs, and in a light room the animal runs or jumps to any dark object. This negative tropism is, however, part of a series of complex relationships of areas 18 and 19 which I do not have space to discuss here. Enough has been said to indicate my belief that the temporal lobe of the brain is concerned in powerful visual avoiding responses that can, when exaggerated, determine the whole behavior and character of the animal for the remainder of survival (four to six months in our own studies).

If we compare the positive exploratory reactions served by the cerebral cortex with the withdrawal or "avoiding" reactions, in terms of gross tactile and visual stimuli, together with the areas of cortex essential to each (table 1), it is apparent that the type of experiments with cortical ablation which we have described has led to the appearance of symptoms by disturbance of an equilibrium. Removal of the cortical mechanism of any one of these reactions results in exaggeration of the other three, especially that of the corresponding type of stimulus.

Table 1

Comparison of Exploratory and Avoidance Reactions

Positive Exploratory (Palpation)	Negative Withdrawal (Avoiding)
Tactile	**Tactile**
Rolandic motor cortex	Cingulate gyrus
Post-central gyrus	Area 8
	Supplementary motor area
Visual	**Visual**
Posterior parietal cortex	Temporal lobe

Thus removal of the posterior parietal region results in the appearance of facile avoiding induced by visual stimuli, and less facile but nevertheless increased tactile avoiding. Removal of the frontal cortex (cingulate, area 8) results in release of tactile grasping, with less facile visual exploration. The cortical type of reaction to painful stimuli is normally an avoiding reaction, enhanced or depressed with other avoiding responses, but not abolished completely. Only when the efferent pathway for a reaction is damaged are the more coarse and prolonged subcortical reactions we call "tonic"—spasticity and dystonia—released. For the type of disequilibrium that results in the appearance of instinctive grasping or instinctive avoiding we have proposed the term "transcortical release," implying a disequilibrium in the natural balance of inborn cortical reactions that we call natural behavior.

Two Major Divisions of Cerebral Motor Function

On the basis of the type of experiment I have outlined it was possible to delineate permanent changes in behavior, both general behavior and types of prehensile reaction in the limbs, in negative terms in relation to absence of the rolandic and parietal cortex on the one hand, and in positive terms in relation to lesions of a large area circling the medial aspects of the hemisphere on the other (fig. 2). We see normal cortical function as a balance of reaction to the environment, to the exteroceptors, in two main divisions, positive and negative. Neurophysiology has up to now been concerned with the presence or absence of positive factors. But it is clear that just as important are the presence or absence of negative functions, of which the

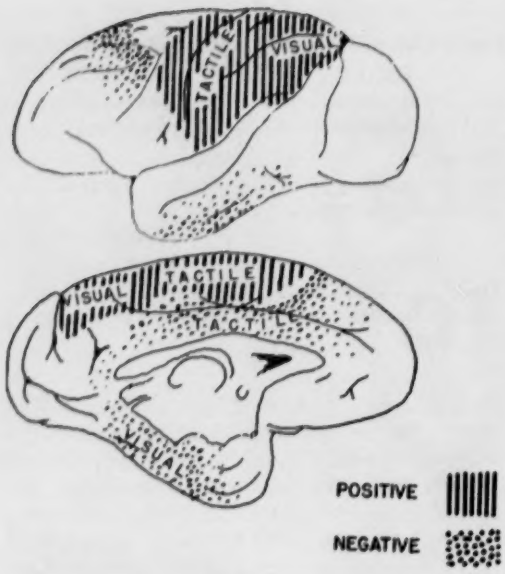

Figure 2

avoiding reaction is a prototype. The negative functions have cortical and subcortical components. The latter can be released in the form of what we call dystonia, just as the positive functions can release the traction response and spasticity. Furthermore, a whole series of changes in behavior are the result of what we call transcortical release — the disturbance of equilibrium between positive and negative at a cortical level. The loss of one type of highly differentiated reaction releases another highly differentiated reaction of opposite type.

The avoiding reactions that I have called negative functions are a primitive mechanism. They are situated in what the anatomist calls archicortex. The efferent pathways are all extrapyramidal, for Tower[13] showed that "inhibitory" responses to electrical stimulation could be elicited from the same areas after pyramid section in the cat. They include all the reactions to noxious stimuli, which are still exquisitely differentiated after parietal ablation, or indeed combined rolandic and parietal ablation, though the parietal cortex has previously been thought necessary for all highly differentiated cortical reactions. These are the cortical reactions of the extrapyramidal mechanism.

Except for the visual response, the degree of reactivity of the completely decorticate animal is especially remarkable. The primitive grasp reflex is not elicitable after ablation of the rolandic cortex not because it is a cortical response, but because avoiding is then overactive. If the entire hemisphere is removed, a coarse type of simple grasp reflex then returns, and a coarse undiscriminating type of contact-placing reaction. These are the true lower level reactions. This, we believe, is the reason that hemispherectomy in man can result in more useful movement in the opposite limbs than had been possible after a previous rolandic lesion.

Conclusions

All the instinctive cortical reactions we have discussed belong to a class of responses to environmental stimuli for the performance of which the integrity of specific areas of the cerebral cortex is necessary. They may be exemplified by localized specific reactions to specific stimuli, each of which has separate special cortical mechanism. The patterned topographic representation of the senses in the cerebral cortex is seen as a mosaic in which each element competes for control of behavior.

More than 50 years ago the biologist Jacques Loeb[14] proposed that instinctive behavior was compounded of tropisms in response to the environment, and that the organization of the nervous system was primarily directed to the performance of such tropisms. We have, however, distinguished two broad classes of tropisms, positive and negative, and within each of these at least tactile and visual components. Probably all senses are so organized. The components we have studied appear in man following cerebral lesions. The fundamental characteristics of behavior can be permanently altered by brain lesions in terms of these instinctive reactions. The fascinating studies of innate instinctive behavior in birds and fish by Lorenz[15] and Tinbergen[16] indicate that much is yet to be learned from comparable studies of instinctive cortical reactions in man.

Our study of unilateral parietal lesions in man showed not only the ignoring of events in the opposite half world, but curious negative reactions both physical, such as "avoiding," and mental, such as denial of disability, anosognosia. Study of the effects of frontal lobe lesions shows not only overreactions to natural stimuli, tactile automatisms, and

bulimia, but mental responses such as preoccupation with the present and loss of response to disagreeable stimuli. Now that temporal lobectomy is being practiced we see yet another picture—preoccupations with tactile and visual effects. And we begin to become aware that certain classes of phychiatric behavior which have long defied psychologic analysis and psychologic treatment, such as compulsions, hallucinations, and the stereotyped mannerisms and withdrawn states of schizophrenia, are indeed hypertrophied cortical automatisms carried across the border that separates animal behavior from mind.

In the clinic also incoordination between cortical automatisms in the form of chorea is regularly seen, and the more coarse release of subcortical elements in the form of athetosis and dystonia. An even more violent disequilibrium between positive and negative extremes transforms athetosis into tremor[6a]. Thus we may hope to begin a more rational understanding of cerebral physiology and neurology, based on the study of objective effects in relation to adequate stimulus.

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Clinical evaluation: Inadvertently, clinical evaluation, regardless of its recognized soundness and clarity, has been relegated to a position of secondary importance by ill-advised physicians because it lacks that one tangible asset, a figure reported in per cent elevation, per cent uptake, or gamma per cent. This information trend in medicine has been the result of the widening demand for accuracy of diagnoses and has led the unwary physician to place almost complete reliance upon laboratory tests, without due consideration of their biological limitations, inherent technical inaccuracies, and variable range of normal values.—Bauer, R. E.: The Present Status of the Diagnosis of Hyperthyroidism, Editorial, Ann. Int. Med. 44:208 (Jan.) 1956.

The Immunization of Allergic Children

Part 1. Special Reference to Eczema Vaccinatum

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Generalized vaccinia has been known as a complication following smallpox vaccination since the time of Jenner. Martin[1], in 1882, reported 3 cases of generalized vaccinia in patients with skin lesions who were not vaccinated themselves, and the term *eczema vaccinatum* is credited to him. Fifty-six years later, and only 18 years ago, McKahnn and Ross[2] reviewed this subject and stated that, although the more frequent complications of vaccination, such as urticaria, rashes, lymphadenopathy and auto-vaccination, were well known, the danger of spontaneous spread of vaccinal infection from a recently vaccinated individual to one suffering some skin affection was not so widely recognized. They also pointed out that seven American texts did not mention this danger to a person with a skin disorder.

Incidence

During the smallpox epidemic in New York in April and May, 1947, five million people were vaccinated. Greenberg[3] found that, as a result of this mass vaccination, 45 cases of generalized vaccinia developed—a ratio of 1:110,000. Thirty-eight of those with generalized vaccinia had pre-existing dermatoses. Ten with skin diseases were vaccinated, while the remaining 28 had not been vaccinated themselves. All but one of these had had intimate contact with recently vaccinated persons. This contact usually occurred in the home, but a few of the cases developed after exposure to a recently vaccinated nurse in a hospital. Of the group of 28 patients, all but one were children under the age of 5 years, and deaths occurred in infants aged 4 and 6 months respectively. In a previous detailed report of 15 cases of generalized vaccinia resulting from this same epidemic, Mustard and Hendrick[4] emphasized the preponderence of eczema vaccinatum among infants.

The impact of this experience in New York should be strong enough to remind all of us of two important contraindications to smallpox vaccination:

1. Never vaccinate a person with a skin disease.

2. Never vaccinate an intimate contact of a person with a skin disease.

Experience at Duke

Nevertheless, sporadic cases of eczema vaccinatum still occur. For example, only last year, during the summer of 1955, 2 patients with eczema vaccinatum were admitted to the Pediatric Service at Duke Hospital. Neither of these children had been deliberately vaccinated. In addition, this year (1956) an adult with a systemic disease and skin manifestation died of generalized vaccinia following vaccination[5]. This experience prompted us to review the records of children under 14 years of age with atopic eczema to determine how frequently this accident occurs. We have excluded all adults and all patients who had other skin diseases or no skin diseases, and all patients with Kaposi's varicelliform eruption, which in some ways simulates eczema vaccinatum.

Among 415 children with atopic eczema, 8 cases of eczema vaccinatum were encountered. This means that in this series approximately 2 out of every 100 patients with atopic eczema had resultant eczema vaccinatum. In addition to these 415 diagnosed as atopic eczema, 815 cases in patients under 14 years of age were classified under the general term *eczema*, presumably allergic in etiology. Combining both categories, this reduces the incidence of eczema vaccinatum to 6.5 per thousand, or one case in each 150 children with eczematous skin conditions. Since this incidence represents a great danger to the eczematous child, we believe that these cases are worthy of reporting in some detail.

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Read before the Section on Pediatrics, Medical Society of the State of North Carolina, Pinehurst, N. C., May 2, 1956.

Table 1

Summary of Clinical History Eczema Vaccinatum

Case*	Age when vaccinated	Onset Eczema	Duration of Exposure** (Days)	Source of Vaccination	Contact Relation	Contact Age (Years)
M. J.	4 mo.	2.5 mo.	7- 9	Preschool	S	6
C. C.	6 mo.	2 mo.	7- 9	———	B	5
W. S.	9 mo.	3 wk.	8	School	S	6
L. W.	1.5 yr.	3 wk.	14	———	B	6
J. E. H.	2 yr.	5 wk.	15	Physician	B	6
W. W.	5 yr.	3 mo.	19-20	———	S	6
J. B.	5 yr.	7 mo.	9	Nurse	B	2
F. McR.	5.5 yr.	3 mo.	17	———	PM	?

*All the patients were Negro male except M. J. and J. E. H. M. J. was the only Negro female and J. E. H. the only white female patients.

**Duration of exposure represents the approximate interval between the vaccination of the contact and the onset of symptoms.

Abbreviations are as follows: S = Sister, B = Brother, PM = Playmate.

Source of vaccination refers to either the individual giving the vaccine, the place the vaccine was administered, or the stated purpose of the immunization.

Age

All our patients with eczema vaccinatum were under 5½ years of age, and 5 of them were 2 years or younger. Only 1 case of eczema vaccinatum occurred in a white child. One case, in a 6 month old Negro male, terminated fatally (table 1).

Contacts

The contacts were all siblings of the patients, with the exception of a 5½ year old Negro boy whose contact was a playmate. It is of interest that the known contacts were all 5 to 6 years of age, with the exception of one 5 year old boy whose contact was his 2 year old brother. He had been vaccinated by a county nurse. This grouping of contact ages and the fact that 3 patients with eczema vaccinatum were admitted in June, and 1 each in January, April, May, July, and August, strongly suggest two facts: The first is that the contacts were vaccinated by someone other than a physician familiar with the medical problems of the entire family. The only case in which a family physician is known to have administered the vaccine to a contact was in the case of J. E. H., whose severe and unmanageable eczema early had separated her, in effect, from the physician's care. Second, the predominantly spring and summer hospital admissions of patients with eczema vaccinatum would suggest that the contacts were being vaccinated to comply with the immunization requirements for admission to schools.

Onset of symptoms

The estimate of time between the vaccination of the contact and the onset of symptoms in eczema vaccinatum varied between 7 to 20 days, with an average of about 12 days. These figures are similar to those reported by Mustard and Hendrick[4]. In their series of patients, of whom 7 were vaccinated themselves, the average period of incubation was 11 days and the median was 9 days. As the authors point out, the clinical history is often unreliable, as to both the manner in which it is given and how it is recorded. Regardless of this unreliability, one important inference can be drawn: A vaccinated person should be considered a danger to the eczematous child until the scab from the vaccination site has fallen (fig. 1).

Febrile course

The febrile course of these patients, with the exclusion of the fatality, averaged 12 days. The history of fever prior to admission averaged about four days. F.McR.'s history of 14 days of fever was complicated by the fact that he was said to have been suffering from bronchitis or bronchopneumonia shortly after his earliest possible exposure to the vaccinated contact. His rash was noticed to have become worse only four days before his admission. In general, the fevers recorded after admission were of the sustained type and ranged from 2 to 16 days, averaging 7 days. Excluding the case which terminated fatally, the average was 8 days.

The mean length of hospitalization was 21

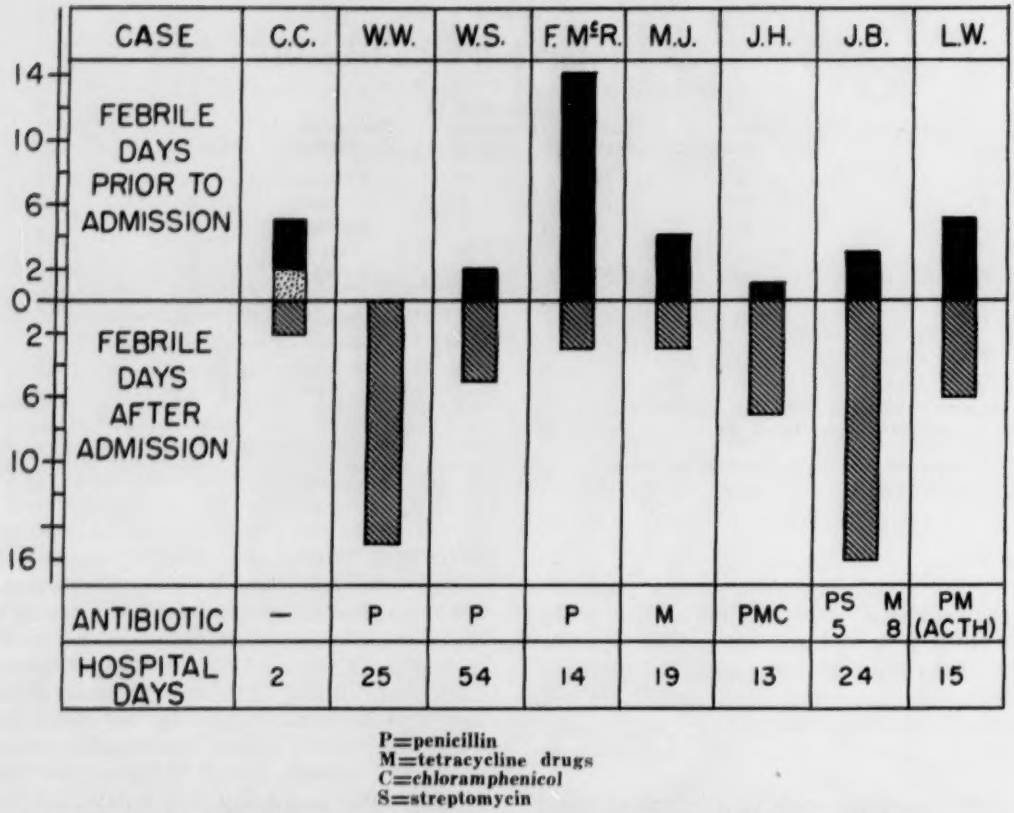

Fig. 1. Duration of febrile course of 8 patients with eczema vaccinatum. C.C. is the only fatal case. Figure below antibiotic indicates days of therapy. ACTH given prior to admission in case L.W.

days, with a range of 13 to 54 days, excluding the fatal case.

Comparisons between cases treated with what now appears to be extremely small doses of penicillin and those treated with larger doses of penicillin, streptomycin, Chloromycetin or one of the tetracycline drugs or combinations indicate no difference in the febrile course. The hospitalization period was longer in those cases treated with penicillin alone. It must be pointed out, however, that the one case with eye involvement and ichthyosis is included in this group and represents the longest single period of hospitalization. Regardless of the statistics, this series is entirely too small to enable one to draw any conclusions regarding the superiority of one antibiotic over another in the treatment of eczema vaccinatum. One important thing can be said: Eczema vaccinatum represents a preventable and unnecessary economic burden to a family that is already overburdened.

Illustrative Cases

The following three cases are presented because of their complicated nature.

Case 1 (C. C.)

A 6 month old colored male was seen at Duke Hospital on June 14, 1939. He had had infantile eczema at about the age of 2 months, and had been treated with crude coal tar ointment and soaks. The eczema had never cleared completely. Fourteen days before his admission, his 5 year old brother had been vaccinated, with a successful reaction. The patient had remained well, however, until 5 days prior to admission when the eczema became worse, spreading rapidly over the face, scalp and neck, and was accompanied by an elevation of temperature. His general condition became progressively worse. Two days prior to admission, the fever abated but the respirations became labored. The patient began to vomit frequently (fig. 2).

On physical examination the infant was found

to be acutely and gravely ill. He was stuporous and emitted a feeble cry with each breath. He was obviously dehydrated and acidotic. Temperature was 38.5 C., pulse 140, and respirations 40. Crusted and pustular lesions were noted over his entire face, scalp, and neck. A few scattered unbilicated lesions were noted in the left antecubital and pubic regions. His initial white blood count was 16,400, with a marked shift to the left. In spite of supportive and symptomatic care, the patient expired on the second hospital day. At autopsy, besides the obvious observations of eczema and vaccinia, evidence of interstitial mononuclear pneumonia was found.

The case of W. S. is interesting because he is the only patient on whom we have had long follow-ups and because of a basic skin disorder with superimposed atopic eczema. This patient is the only one of the 8 cases of eczema vaccinatum with eye involvement.

Case 2 (W. S.)

A 9 month old colored male infant was admitted to Duke Hospital in June, 1946. His mother stated that after his birth the skin had peeled off his entire body, leaving him "red like raw beef." At about 3 weeks of age, a rash appeared over his face and spread steadily until, after 2 or 3 months, it involved his entire body. Thirteen days before admission, his 6 year old sister had been vaccinated at school. Approximately eight days later the mother noted blisters the size of pin heads over the patient's chest. Two days later fever developed, and the rash spread rapidly to the arms, legs, and face. The patient acted as though "in a daze." He was seen by a dermatologist who referred him to Duke Hospital (fig. 3).

On physical examination the infant was acutely ill and actively scratching his face and scalp. His temperature was 38 C. Over the entire face, head, and arms was a diffuse raised, round, opaque, vesicular eruption which, when ruptured, allowed a seropurulent exudate to escape and left a bleeding macerated base. The skin over the legs was dry and wrinkled, described by one observer as "elephant-like." Generalized adenopathy and a vascularized infiltration of the left cornea were noted. The white blood count was 45,000, with a shift to the left.

He was treated with penicillin, 10,000 units every three hours, and given local skin care. Atropine drops and penicillin ophthalmic ointment were instilled in the left eye. He gradually improved and was discharged after 54 days of hospitalization.

Fig. 2. (Case 1) Fatal case of eczema vaccinatum. Note discrete umbilicated vaccinal lesions.

Fig. 3. (Case 2) Eczema vaccinatum in 9 month old Negro infant with severe generalized ichthyosis. Note lymphadenopathy.

We subsequently saw this patient seven years later. He was then suffering from chronic eczema, ichthyosis, hypertrophied tonsils and adenoids, with excoriations about the nose and eyes. He also had bilateral pterygia and allergic conjunctivitis. In spite of these processes, there were no permanent vaccinia scars and the left cornea was clear (fig. 4).

The third case presents a problem in differential diagnosis and emphasizes the importance of establishing a diagnosis before launching into any therapeutic regimen, particularly one including the steroid hormones, which may interfere with the basic immunological response and eventual recovery of the patient.

Case (3)

An 18 month old colored male was admitted to Duke Hospital in August, 1955. At the age of 3 weeks he had had a persistent "milk rash" which frequently had become infected, requiring antibiotic therapy. Two weeks before his admission a vesicular rash developed on his extremities. His older brother at this time had a crust on his vaccination, which had been done one to two weeks previously. Approximately six days before admission, the patient began to have fever, and the rash spread from his extremities to involve the face and eyes. He was

Fig. 4 (Case W.S.) Photograph on left shows detail of lesion of eczema vaccinatum about the face and eyes, most extensive in area of pre-existing atopic eczema. Photograph on right shows patient 8 years later, with no residual vaccinal scars, but persistent eczema, ichythosis and excoriations about orifices due to chronic infection.

seen by his physician, who treated him with penicillin, ACTH, and hydrocortisone lotion. Since he failed to respond to this treatment, he was referred to Duke Hospital.

On arrival his temperature was 40.8 C., pulse 160, respiration 50. He was a critically ill infant, with a severely swollen face, covered by thick crusts, purulent exudate, and raw areas which bled easily. There were discrete vesicular umbilicated lesions, with some coalition over the limbs and buttocks. The corneas were free of involvement. The white blood count was 8,360, with 56 per cent polymorphonuclear cells and 44 per cent lymphocytes per 100 cc.

He was given antibiotic therapy consisting of Achromycin and penicillin, local skin care, and fluids. His temperature returned to normal on the fifth hospital day, and he was discharged after 15 days free of vaccinia lesions.

Differential Diagnosis

The differential diagnosis of eczema vaccinatum must include Kaposi's varicelliform eruption, secondarily infected eczema with bacteria or fungi, and acute exacerbations of atopic eczema. Paramount in the diagnosis is the history of contact with a vaccinated person. This is the most valuable aid to the physician confronted with the problem. In eczema vaccinatum, the lesions are discrete, umbilicated and vesicular, with an erythematous base. Although there may be a tendency to confluence, the basic nature of the lesions persists. Kaposi's varicelliform eruption can be differentiated only by laborious laboratory methods, including the isolation of the virus. Usually this is needed when the contact with the source of the virus is obscure. Bacterial and fungal infections can be differentiated by culture and the appearance of the rash. With this more frequently encountered complication, infected eczema, the eczematous skin is erythematous, weeping, and fissured, with a tendency to crust formation. General and local signs of infection are of little value. An acute attack of eczema is usually characterized by the presence of many fine papules topped with pin-point vesicles, which break and, oozing serum, form a typical sticky crust. In the case of eczema vaccinatum, the more isolated, larger vesicles, which become unbilicated, usually are quite typical after 24 hours. Thus within a short time the diagnosis becomes apparent, if the possibility of exposure is kept in mind.

Summary

Eczema vaccinatum is a lamentable and preventable disease. Eight cases occurred in 415 cases of atopic eczema, representing about 2 cases of eczema vaccinatum among each 100 cases of eczema. All the patients were 5½ years of age or younger, and death occurred in the case of a 6 month old infant. The vaccinated 5 and 6 year old, preschool and school-aged sibling constitutes the greatest single menace as a contact with the eczematous child. Adherence to the contraindications of smallpox vaccination is urged.

Never vaccinate a person with a skin disease.

Never vaccinate an intimate contact of a person with a skin disease.

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If there was any question about it, the AFL-CIO as a joint organization favors national compulsory health insurance, as each group did before the merger. The AFL-CIO stand was taken officially for the unions by Nelson Cruikshank in testimony before the House Ways and Means Committee on a bill for increased payments for the medical care of public relief recipients—Washington Office of the A.M.A.

Medical Schools - - U. S. A.*

DAVID G. WELTON, M.D.

CHARLOTTE

Almost everyone is interested in health and medical care, and almost everyone talks about it, or reads about it, or both. For example, during the first 10 months of 1955 national magazines with a circulation of one million or more published 342 medical articles; virtually all daily newspapers carry one or more medical columns; medical television programs are increasing rapidly in popularity. The public's appetite for medical information appears to be insatiable. Recognizing this fact, we have established facilities in our national, state, and local medical organizations to help writers get the facts straight about medical subjects. We believe in the general education of the public about medical matters.

There is one facet of the medical care picture, though, about which the public has *not* been adequately informed. This is a fundamental factor in the general economics of any business operation—namely, the *supply* of the *product*. On the first nationwide observance of Medical Education Week, I want to discuss some facts and fallacies about the production of doctors in the United States.

Present Supply of Physicians

A census just completed by the American Medical Association shows that we now have 218,061 physicians in the United States. This compares with 201,277 in 1950, and represents an average annual net gain of 2,797, or about 13 per cent. This is a respectable rate of growth. During the six-year period cited this gain was highest in the Pacific Coast area, where it reached 23 per cent; our South Atlantic region came next with a gain of 16 per cent.

The 218,061 physicians are classified in table 1. Approximately one-third are full-time specialists, one-third general practitioners, and one-third something else. A part-time specialist, for example, is a general practitioner who devotes just part of his time to one specialty. Hospital service includes interns, residents, and full-time laboratory specialists, radiologists and anesthesiologists.

Table 1

Classification of Physicians

	Per Cent
General practice	30
Part-time specialist	10
Full specialist	31
Hospital service	17
Retired	5
Industrial and others	4
Government, including military	3

Government service, *including* military, accounts for 3 per cent.

Of the 81 approved medical schools in the United States, 75 conduct full four-year programs and six conduct two-year basic medical science programs. In addition, seven new medical schools are in the process of being developed, four of which are in the South. In 1954-1955 medical school enrollment included 28,583 full-time *medical* students, plus *57,000 other* students such as technicians, dentists, veterinary and pharmacy students, interns, and graduate students in other scientific fields. This is a part of the medical school "load" not generally known to the public. Seven thousand new M. D. degrees were granted in 1955.

Common Misconceptions

Here are the most common misconceptions about medical education:

"Medical schools keep a tight lid on enrollments. . . ."

"Only "A" students are admitted to medical schools. . . ."

"The AMA won't let medical schools expand. . . ."

"Doctors can't keep up with our fast-growing population. . . ."

"Medical schools need federal help to meet expenses. . . ."

Before discussing these misconceptions in detail, let's begin with the general question, "Are there enough doctors?"

Figure 1 shows the increase in the production of physicians since 1910 as compared

*The text of an informative address prepared for lay audiences (civic clubs, etc.) on the occasion of Medical Education Week, April 22-29, 1956. All data quoted were obtained from the American Medical Association.

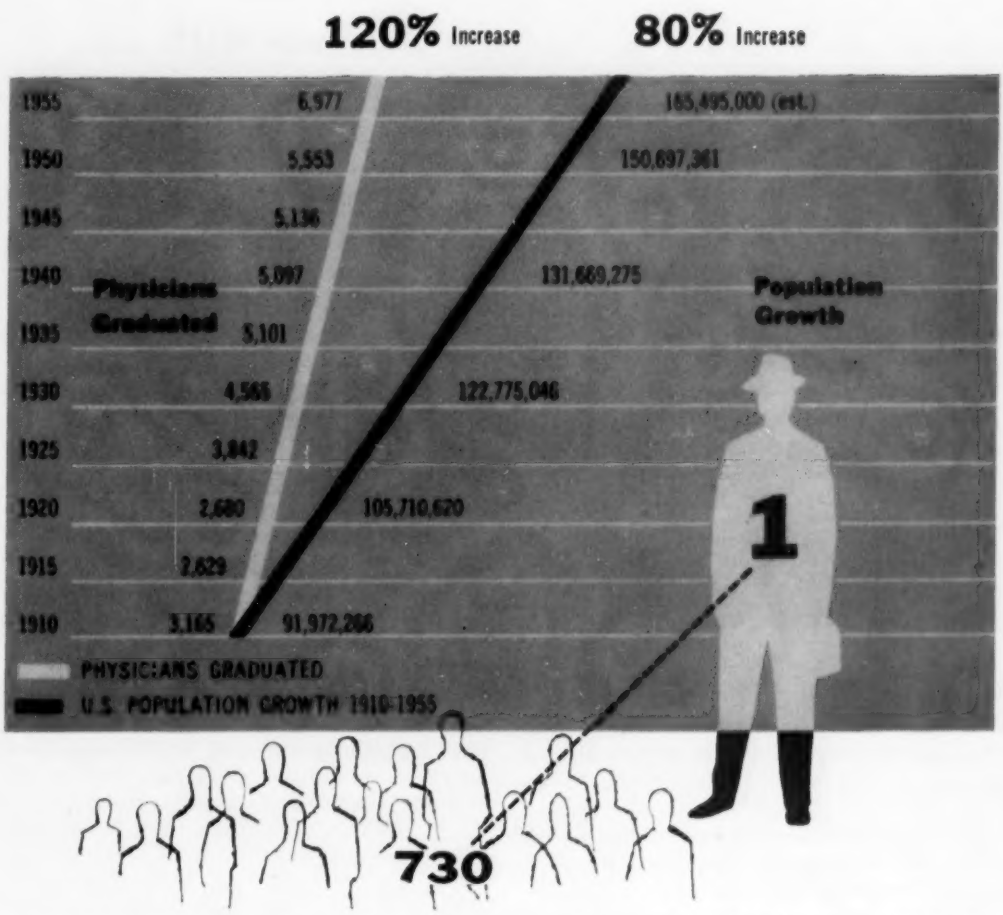

Fig. 1. Comparasion of increase in physicians with population growth in United States (1910-1955).

with the increase in our population during this same period. In 1910, 3,165 physicians were graduated, whereas last year 6,977 were graduated. This is an increase of 120 per cent. In that same period of time the population of our country increased only 80 per cent. Notice the rapid increase in medical school graduates in the past ten years: from 1945 to last year there was an increase of 2,000 students graduated per year.

At present we have one physician for every 730 persons in the United States; this is the best ratio of any nation in the world with the exception of Israel, where an influx of refugee doctors from Europe has produced an abnormal situation. Even though it is widely used, this ratio of doctors to population is a crude and inaccurate yardstick. The two significant factors which it does not take into consideration are (1) the *distribution* of physicians and (2) the *productivity* or capacity of physicians. There are some thinly populated areas where there are not enough physicians; we are attempting to remedy this by physicians' placement services and by offering incentives to younger physicians to come to these areas.

Then there is the matter of the physician's productivity or capacity, which today is much greater than it was 25 years ago. With adequate office space, modern equipment, and well trained nurses, technicians and other assistants, the physician in private practice today can render good service to twice or three times the number of patients taken care of in a day's time 25 years ago. With automobiles and good roads, the general practitioner today treats a great many more per-

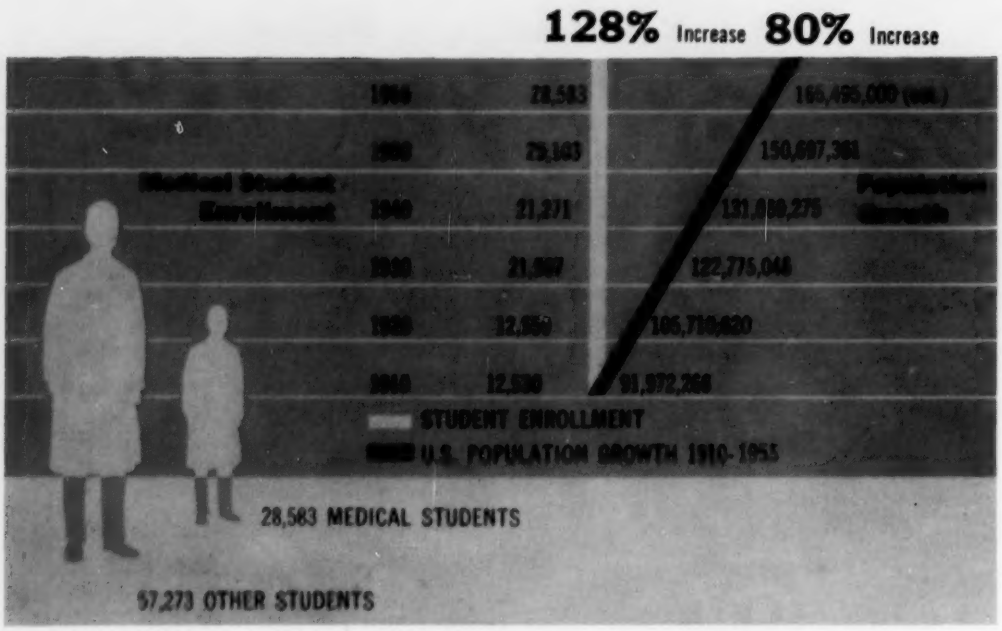

Fig. 2. Comparison of increase in medical student enrollment with population growth (1910-1955).

sons than did his predecessor 50 years ago (and actually leads a more strenuous life).

Restriction of enrollment

Now, do "medical schools keep down their enrollment in order to restrict competition among practicing physicians?"

The left portion of figure 2 shows the overall enrollment of medical schools in the United States during each decade from 1910 to 1955. Over this period there has been an increase of 128 per cent in medical school enrollment as compared with an increase in population of 80 per cent. During this same period, the physician's capacity and productivity have increased even more. The net result is that a great deal more medical service is being provided to more people than ever before in the history of this country.

Now, the American Medical Association has neither the authority nor the *desire* to control the size of the enrollment or the number of graduates of our medical schools. The number of students to be admitted is determined solely by the faculties, administrative officers, and governing boards of each school in accordance with its educational philosophy and its resources. People also ask, "Doesn't your local county medical society limit the number of doctors permitted to come into the county and practice?" Absolutely not; so long as they are legally and professionally qualified, no county society limits the number of physicians who may enter practice in the area.

You hear that it is very hard to get into a medical school. Well, let's see.

Forty-seven thousand five hundred and sixty-eight applications to medical schools in 1954-1955 were made by a total of 14,538 persons; so each person applies on an average of three and one-third times. About 30 per cent of the applicants each year are "repeaters" who have made previous attempts; many of them have no real qualifications for medical school. Of the 14,538 who applied, 7,576 were admitted as freshmen in the fall of 1954. Actually some schools are finding it difficult to fill their freshman openings with first-rate applicants, and the problem in the near future may be a shortage of *qualified candidates* rather than a shortage of *teaching facilities*. The physical plants and faculties of our medical schools have been enlarged about 20 per cent since the end of the war, limited chiefly by the financing.

Another common fallacy is that "only 'A' students are admitted." This is not true, but

your chances are better if you have a "B" average in most cases. During last year only 17 per cent of the freshman medical school class had "A" averages in their premedical work; 69 per cent had "B's" and 14 per cent were "C" students. Character, leadership ability, and personality are equally important considerations in this matter. Well, how do the "B" and "C" students make out? They may find the going rough, but most of them have the tenacity to see it through. Last year, for example, only 5.5 per cent of the entire national freshman class was dropped, and the mortality is highest during the first year. Medical schools screen and interview each candidate thoroughly in an effort to determine whether or not he has a real aptitude for this profession.

Growth of schools

Some claim that our medical schools fail to grow with the times. The fact is that the number of *approved* medical schools in the United States increased from 66 in 1910 to 80 in 1954. This represents a growth of 21.2 per cent, and on the basis of new schools now under development the figure will be 30 per cent by 1960. Of course the productive capacity of the schools has increased even more than that, since we are now turning out more than twice as many graduates each year as we were in 1910. Substandard schools and "diploma mills" have been eliminated. Today all medical schools must be fully approved by the American Medical Association and the Association of American Medical Colleges. In order to be approved each school must meet the requirements for suitable classrooms, teaching hospitals, library, clinics, and a well integrated program of instruction. Now, actually all you need if *you* should want to start another medical school is about 15 or 20 *million* dollars! Put up a good plant, hire a good faculty, establish and maintain high standards, and we'll be glad to arrange approval and you can "be in business!" The only time a "ceiling" on enrollment is recommended by the A. M. A. and the Association of American Medical Colleges is when overcrowding of physical facilities endangers the quality of instruction.

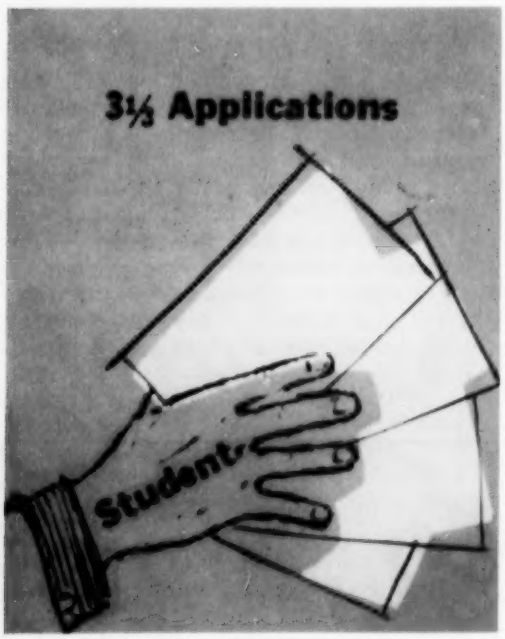

Fig. 3. Ratio of applicants to applications 1954-1955—3:3.3.
47,568 applications to medical schools
14,538 applicants to medical schools

Costs

Finally, a word about financing our medical schools. They do need more income; as with all other institutions, their operating costs have increased greatly. Please remember that every time there is a general round of wage and price increases in business and industry, it soon affects hospital costs, medical school costs, and the "overhead" of physicians' offices!

What does a medical education cost now? Tuition averages $800 to $1,000 per year. Add to that the cost of living and it's hard for a student to keep his expenses to less than $2,500 per year. On the other hand, it costs the *schools* almost $4,000 per year to teach one student.

The total operating sum budgeted by all the medical schools in this country is 159 million dollars for this year alone; they will actually spend more, but that is all they have. The difference will be supplied by organizations and industries which realize that a strong medical education system is a national necessity and will help support it. That realization gave birth to the National Fund for Medical Education in 1949, under the leadership of President Eisenhower, then president of Columbia University, former President Herbert Hoover, and S. Sloan Colt of New York. Working with our medical col-

leges and the American Medical Association, this group found that there was a 10 million dollar annual operating deficit at that time, so the fund was organized to solicit contributions from business and industry. The objectives of the fund are to:

1. Finance the training of competent physicians to meet the nation's needs
2. Encourage the advancement of medical standards in the United States
3. Preserve academic freedom and equality of educational opportunity in the medical schools
4. Make known the needs of medical education to the American public.

Chartered by Congress in 1953 as the agency authorized to seek private support for medical education in the United States, the N. F. M. E. is directing its first appeal to the public during Medical Education Week.

As a corollary effort, we physicians organized our own non-profit organization in 1950; it is known as the American Medical Education Foundation. Contributions from state and county societies and individual physicians have totalled 5 million dollars since 1951; this sum is being increased in many cases by adding a fixed amount to state society dues annually.

Our medical schools have *two* important functions: (1) the training of physicians; (2) the operation of research laboratories from which we get the life-saving drugs that have miraculously wiped out or virtually wiped out a number of diseases. Here is a fact which may be surprising: grants or gifts from outside agencies now finance 95 per cent of all the research being conducted. This amounts to 61 million dollars per year —two-thirds as much as the total amount budgeted for all basic medical school activities. Still it is not enough. Think what we could accomplish in the way of research if this amount were doubled or tripled!

The Situation in North Carolina

Now, what's going on here in North Carolina? We are one of 10 states having three four-year medical schools; 757 full-time medical students, more than half being natives of this state, are enrolled. Between 150 and 200 physicians are graduated annually now; about 400 new M. D.'s are receiving advanced training in our medical school hospitals. Doctors who practice in other communities throughout the state also contribute time and effort to training their "future competitors." Student nurses, hospital interns, and residents in hospitals not associated with a medical school are taught by men in private practice who give this time and service *gratis*. In addition, physicians spend between three and six hours per week at hospital, county society, and committee meetings. Scientific papers are presented, actual case histories studied, and new methods of treatment are discussed. In addition to local meetings, they attend state, regional, and national meetings. In short, the doctor's education is never completed, and he must continue to study in order to render the best possible service.

Conclusion

We believe that our 81 medical schools are helping to ensure longer and healthier lives for Americans, and that progress made by American medical science is saving lives and winning friends abroad as well. The United States would probably not be the most prosperous nation in the world today if it were not also the healthiest, and medical education *keeps* us healthy.

Our medical schools are a true bulwark of our national welfare. They make possible better medical service where and when it is needed.

Because the President signed the military bill promptly, physicians in uniform received their pay raises starting May 1. The minimum boost (after two years' service) is $50 per month, the maximum (after 10 years) $150—Washington Office of the A.M.A.

The Treatment of Chronic Granulocytic Leukemia With Myleran

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and
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Myleran (1,4 - dimethanesulfonyloxbutane, or GT-41) is one of a group of sulfonic acid esters which Haddow and Timmis[1] found to be active against the Walker rat carcinoma 256. These compounds also were shown to have a fairly specific effect in decreasing the number of granulocytes in the peripheral blood of rats and human beings. Myleran, the butane compound, was the most effective of these esters. The first clinical use of this drug was reported by Galton in 1953[2]. He found it to be efficacious in chronic granulocytic leukemia, but ineffective in other types of leukemia.

Other observers[3] have since corroborated Galton's findings that the drug has a specific depressant action on granulocytes, is beneficial in chronic granulocytic leukemia, but has no effect on myeloblastic relapses which occur in the course of chronic granulocytic leukemia, on other types of leukemia, on myelomatosis, and on nasopharyngeal carcinoma. Our experience with 12 patients who had chronic granulocytic leukemia is in agreement with the results reported by other observers.

Materials and Methods

Twelve patients who had chronic granulocytic leukemia were treated with Myleran. Six patients had previously received other types of treatment and 6 had not been treated. Age, sex, duration of the disease before therapy, and the period during which each patient was followed after start of treatment with Myleran are shown in table 1.

All patients in this series were seen by the authors at the North Carolina Baptist Hospital, and the diagnosis was confirmed by bone marrow aspiration before treatment was started. The patients were treated largely on an outpatient basis. Some were followed in the hematology department or by private physicians at this institution, but about half, because of the distance involved, were referred to their local physicians for check-ups during and after treatment. Patients followed in this institution were seen at weekly intervals. At each visit physical examinations and studies of the peripheral blood, including hemoglobin determinations, total leukocyte counts and differential counts, were done. Platelet counts were performed only if the platelets appeared decreased in the peripheral blood smear. When patients were referred to their local physicians for treatment, the same procedures were recommended, as was the dosage of Myleran to be used.

All patients were given Myleran orally in tablet form in doses of 4 to 12 mg. per day. The majority received 6 mg. daily, and only one patient received more than 8 mg. per day at any time during the course of treatment. The drug was continued until a satisfactory clinical remission had been obtained and the total leukocyte count had been brought down to about 10,000 per cubic millimeter. The only exceptions were those cases in which it was thought that resistance to Myleran had developed, and 2 patients who did not have elevated leukocyte counts prior to therapy; in the latter Myleran was stopped because of leukopenia before any objective evidence of benefit was apparent. In the remaining cases the drug was discontinued after a satisfactory remission had been obtained, and was started again at similar doses when symptoms reappeared, or in one case when the leukocyte count was rising and the hemoglobin falling prior to the development of symptoms. Maintenance therapy has been tried in only 1 case in this series,

From the Departments of Internal Medicine and Pathology, Bowman Gray School of Medicine of Wake Forest College and the North Carolina Baptist Hospital, Winston-Salem, North Carolina.

1,4-Dimethanesulfonyloxybutane is available under the name of "Myleran" from Burroughs Wellcome & Co. (U.S.A.) Inc.

*Trainee, National Institutes of Health, U. S. Public Health Service.

Table 1
Results of Therapy With Myleran

Case	Sex, Age (Years)	Duration Disease Prior to Therapy (Months)	Previous Therapy	Response to Initial Course						Outcome, Follow-Up (Months)	Remarks
				Clinical Response	Spleen Size Below Costal Margin (cm.) Before Therapy	After Therapy	Hgb. Rise (Gm. per 100 cc.)	Duration Therapy (Days)	Total Dose (mg.)	Duration Remission (Months)	
1	F 36	61	6-MP*, TEM† P-32, X-ray, urethane, splenectomy	Good	Surgically absent		1.0	117	912	2	Alive 19	No complete remission, but on repeated courses of Myleran patient has not required transfusions, whereas prior to therapy she required 1 unit per month
2	F 54	3	None	Excellent	Palpable	Not palpable	3.8	92	312	13	Alive 16	Continues in remission; started on maintenance therapy 3 months after initial course
3	M 43	51	X-ray	Excellent	12	3	4.7	61	272	3	Dead 15	Good response to three courses; resistance to Myleran and myeloblastic relapse during fourth course
4	M 49	9	X-ray	Poor	5	2	None	99	522	None	Dead 3½	Myeloblastic relapse during third month of therapy
5	M 67	10	None	Excellent	5	Not palpable	3.6	97	368	6	Dead 10	Myeloblastic relapse at end of remission
6	M 32	23	X-ray	Excellent	Below umbilicus	Not palpable	4.7	117	702	9	Alive 13	Continues in remission
7	F 25	3	None	Fair	7	No change	2.1	305	1870	‡	Alive 10	Only partial remission; Myleran discontinued when resistance developed; no evidence of toxicity
8	M 46	75	X-ray cortisone ACTH	None	10	No change	Fall	33	132	None	Dead 2½	Thrombocytopenia, myelofibrosis, and normal total leukocyte count prior to therapy
9	M 46	6	None	Good	2	Not palpable	Unknown	125	750	‡	Alive 6	Subjective improvement; hematologic response unknown because of failure to return for follow-up visits until evidence of excessive dosage was present
10	F 47	3	None	Good	Below umbilicus	Not palpable	2.8	60	360	3	Alive 5	Leukopenia, thrombocytopenia, and anemia 3 months after initial course; possible excessive dose
11	F 58	28	None	None	Not palpable	Not palpable	Fall	20	120	None	Alive 2	Leukopenia and severe anemia prior to therapy
12	F 56	9	X-ray	Poor	8	No change	Fall	53	318	None	Dead 1½	Thrombocytopenia and spinal cord involvement prior to therapy

* 6-Mercaptopurine
† Triethylenemelamine
‡ See "Remarks."

21

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[1]Albertson, H.A. and Trout, H. H., Jr.: *Antibiotics Annual* 1954-55, Medical Encyclopedia, Inc., New York, N.Y., 1955, pp. 599-602.

[2]Prigot, A.; Whitaker, J. C.; Shidlovsky, B. A., and Marmell, M.: *Ibid*, pp. 603-607.

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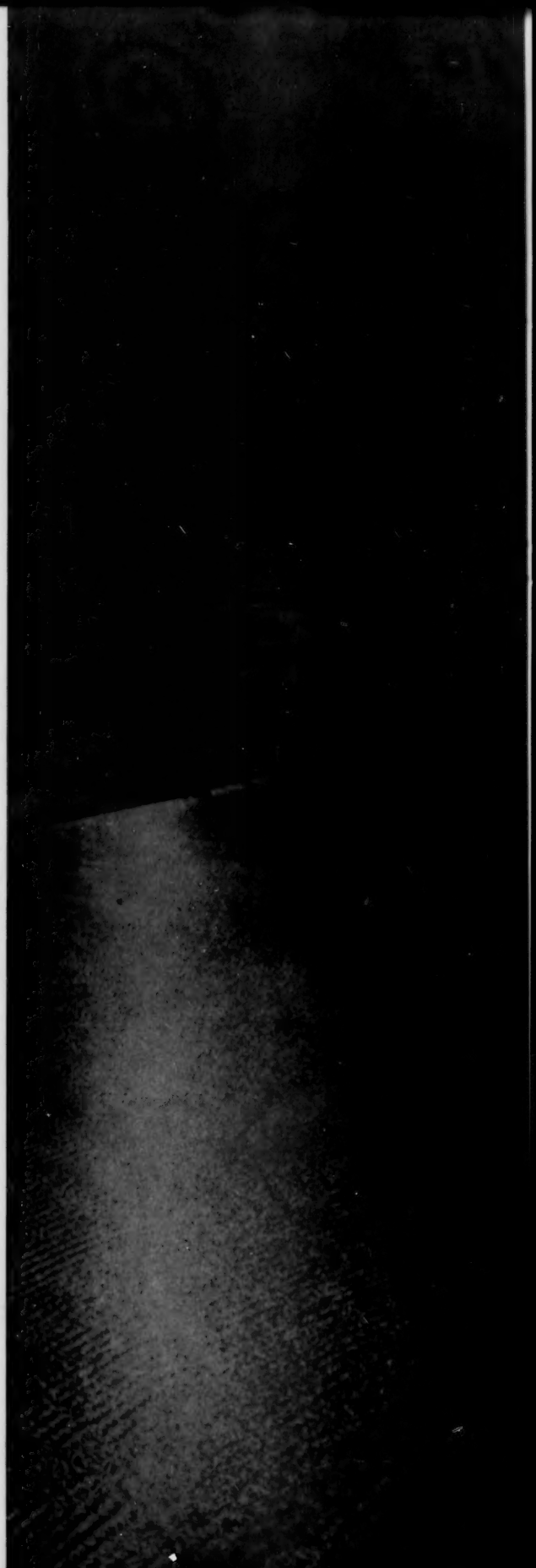

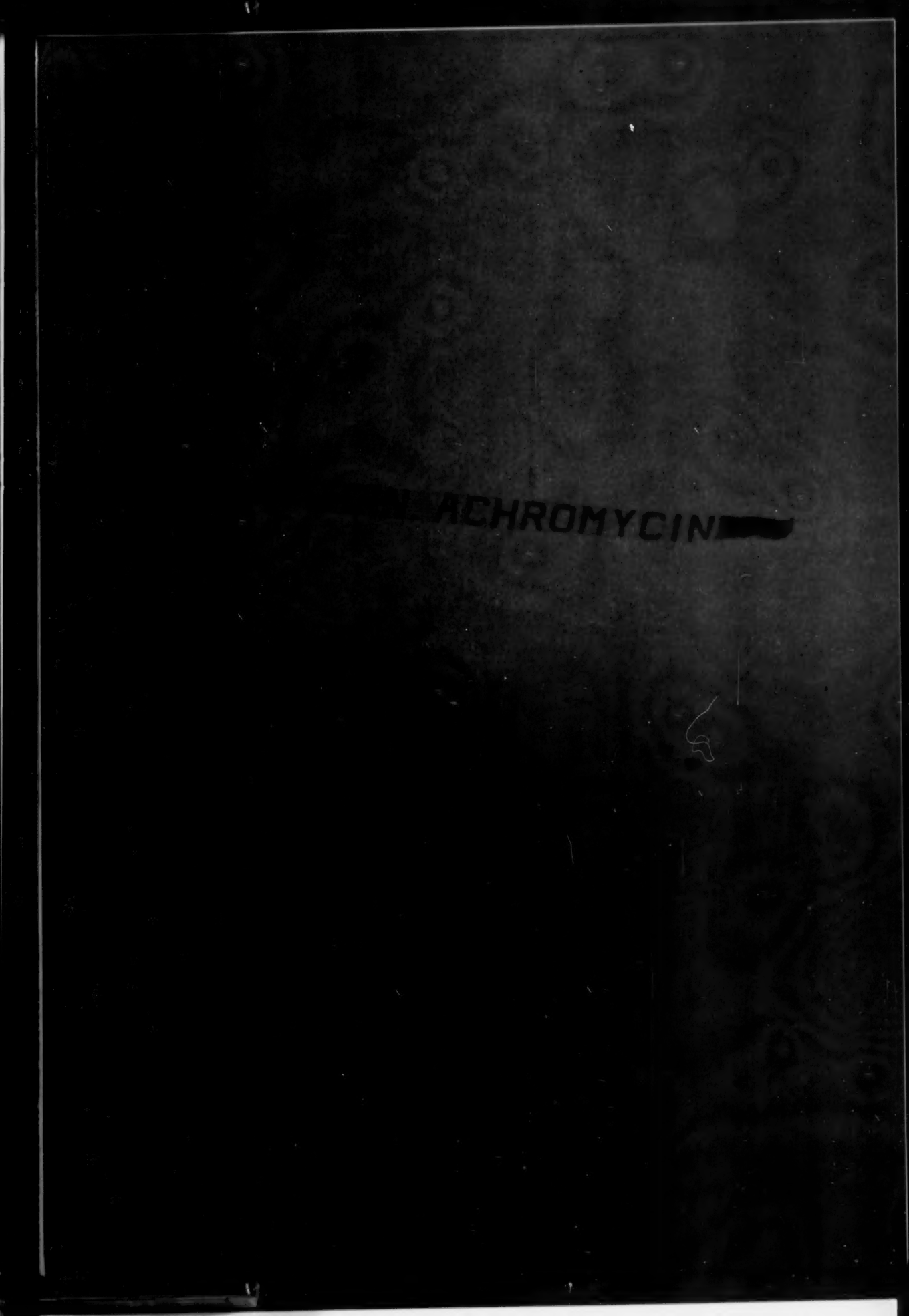
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and this patient has been receiving doses ranging from 2 mg. twice weekly to 2 mg. every other day.

Results

Seven patients in this series are living and 5 are dead. The surviving patients have been followed for periods of 2 to 19 months since the start of therapy (table 1). Of these 7 survivors, 3 (cases 2, 6, and 10) had good remissions; 1 (case 1) had an incomplete remission but was benefited considerably; 1 (case 9) received a toxic dose of the drug; 1 (case 7) showed some response and then became resistant to Myleran; and 1 (case 11) had no response. The results of therapy in each case are described in table 1.

In the 5 patients who are dead the survival periods ranged from 1½ to 15 months after the start of therapy (table 1). Two of these patients (cases 3 and 5) had excellent remissions initially, and the former responded well to second and third courses of Myleran; but both subsequently died in myeloblastic relapses. One patient (case 4) had a minimal response initially, but then had a myeloblastic relapse while on the drug. Two patients (cases 8 and 12) obtained little or no benefit.

The patients who responded favorably to Myleran consistently showed a marked subjective improvement in strength, appetite, and sense of well-being two to three weeks after beginning therapy—ordinarily before any objective effect of the drug was apparent. This response was repeated when the patients were given successive courses of therapy.

In every case Myleran produced a fall in the total leukocyte count, which ordinarily started shortly after subjective improvement was noted and continued gradually as long as therapy was maintained. This fall in the total leukocyte count was due to a decrease in granulocytes, particularly the immature granulocytes. In 3 patients immature granulocytes completely disappeared from the peripheral blood. After the drug was discontinued, the total leukocyte count ordinarily started to rise again within one to eight months.

One of the more gratifying effects noted in patients who responded favorably was the rise in the hemoglobin level. This usually started three to four weeks after the beginning of therapy and continued as long as the drug was administered. In one patient the hemoglobin continued to rise for two months after Myleran had been withdrawn. Generally the hemoglobin level would start to fall very slowly within two to four months after treatment was stopped. The hemoglobin of the patient on maintenance doses of Myleran has remained within normal limits.

In patients who had remissions, the size of the spleen decreased gradually during the period of therapy. In 3 cases the spleen, which extended below the umbilicus prior to therapy, became much smaller, and in 2 of these could no longer be palpated. Four patients had mild to moderate splenomegaly initially; the spleen became smaller in each case and impalpable in 3. No regression of splenomegaly occurred in the 3 patients who did not respond to Myleran, or in 1 patient who had only a partial remission.

The duration of therapy and the total dose of Myleran required to produce a remission varied considerably from patient to patient. In those who responded, the duration of the initial course ranged from 60 to 117 days and the total dosage from 272 to 912 mg. One of our patients was on continuous therapy for 305 days, and received 1,870 mg. of Myleran without obtaining a complete remission.

Comment

Our limited experience with Myleran leads us to believe that this drug has a place in the treatment of patients with chronic granulocytic leukemia who have elevated leukocyte counts. These patients show a fairly consistent response to the drug. The first improvement to be noted is in the patient's sense of well-being. This is followed by a gradual fall in the leukocyte count, especially in the number of immature granulocytes, together with a rise in the hemoglobin and a gradual decrease in the size of the spleen. Remissions may last for several months, during which time an adequate hemoglobin level is maintained and the patient is free from symptoms.

Myleran is of no value in patients who have a myeloblastic relapse. In our experience it was also without appreciable benefit in 3 patients with thrombocytopenia, leukopenia, or both. In the 2 patients without leukocytosis the drug had to be discontinued after they had taken only

a relatively small amount (120 and 132 mg.), because of further fall in the leukocyte count. The patient with severe thrombocytopenia continued to have hemorrhagic manifestations in spite of Myleran and cortisone. On the basis of these findings, we would suggest that patients without leukocytosis, and probably patients with thrombocytopenia, are not suitable candidates for the use of Myleran.

Myleran has a rather specific depressant effect on granulocytes. Petrakis and his coworkers[3f] believed that the drug probably produced this effect by suppressing granulopoiesis. They based this conclusion on the failure to find evidence of destruction of granulocytes in bone marrow aspirates of a number of patients treated with Myleran.

It has been shown that Myleran in large doses does depress other formed elements in the blood. In experiments on normal individuals, Galton[2a] found that it produced a decrease in monocytes and platelets as well as granulocytes. Bollag[3b], working with rats, found that doses of 15 mg. per kilogram of body weight caused a decline in lymphocytes, platelets and erythrocytes, as well as granulocytes.

Myleran apparently produces no side-effects or toxic manifestations other than thrombocytopenia and possibly pancytopenia. In one of Galton's original 19 patients[2a] and in 3 of Petrakis' 21 patients[3f], thrombocytopenia attributed to Myleran developed. All these patients were given large doses (100 to 150 mg.) over a period of one to six days. On a schedule of small doses given over a longer period the danger of this complication is greatly reduced, if the patients are followed carefully. One of our patients (case 9) demonstrates the toxicity of the drug and the importance of careful supervision. This patient, after being referred to his local physician for treatment with Myleran, returned for a few follow-up visits. He then failed to return for further check-ups, but continued to take the drug. After taking 750 mg. of Myleran over a period of 125 days, he appeared with thrombocytopenia, anemia, granulocytopenia, and no immature cells in the peripheral blood. We attributed these findings to Myleran, although the patient had also received an unknown, but probably small, amount of roentgen therapy to the right hip during his absence.

Most observers now agree that the method of choice for the administration of Myleran is to give small doses (4 to 8 mg. per day) until the desired response is obtained. To some of his original patients Galton gave doses of 100 to 150 mg. over a period of one to six days. In a subsequent paper[4] he recommended abandoning this method because of the variability of response and the occasional occurrence of toxic manifestations. We have personally had no experience with large doses of Myleran.

The advisability of giving maintenance doses of Myleran after a remission has been induced has not yet been determined. Theoretically, the chief dangers would be the possibilities of bone marrow failure and the more rapid development of resistance to Myleran. Galton[4] reported no cases of bone marrow failure in a number of patients kept on maintenance therapy; however, 3 patients did become resistant to the drug during the second year. It was impossible to say whether or not the use of maintenance doses had hastened the development of resistance. Our 1 patient on maintenance therapy has done quite well over a period of 13 months.

It has been repeatedly demonstrated that Myleran is of no benefit in myeloblastic relapse, and Bollag[3b] has even suggested that Myleran may have produced a myeloblastic relapse in one of his patients. Galton[4] also noted that 2 of his 31 patients had a myeloblastic relapse while receiving the drug. This same sequence of events occurred in 2 of our patients, suggesting that Myleran may perhaps play a part in the development of myeloblastic relapses. Because of the nature of the disease under treatment, however, it would be very difficult to establish a cause-and-effect relationship.

A point worthy of note is that 1 of our patients (case 2), while on maintenance therapy with Myleran, began to have lower abdominal pain, low grade fever, and leukorrhea, culture of which revealed no pathogens. At this time, however, Papanicolaou smears of the cervix revealed malignant cells on two separate occasions. After three weeks her symptoms subsided, and a dilatation and currettage together with a

cervical biopsy failed to reveal any evidence of carcinoma. Since that time maintenance therapy with Myleran has been continued for four more months, and a recent Papanicolaou smear of the cervix was negative.

It is of interest in this regard that Shimkin[5] was unable to demonstrate that Myleran had any carcinogenic activity in mice. He stated, however, that one would expect some carcinogenic effect from this drug, because of its close chemical relationship to the nitrogen mustards. He also quoted Haddow as stating in a personal communication that experiments with selected members of the dimethane sulfonyloxyalkane series, of which Myleran is one member, strongly suggest that this drug has carcinogenic activity. The possibility of a carcinogenic effect should be kept in mind when patients are being treated with this drug.

It is, of course, too early to compare the effects of Myleran with those produced by irradiation in the treatment of chronic granulocytic leukemia. However, Myleran does seem to produce a greater and more consistent response than other drugs used in the treatment of this disease. Myleran has at least one advantage over roentgen therapy; it is an easily administered medication which can be given on an outpatient basis. Furthermore, Myleran has been found to produce good remissions in some patients who have shown little or no response to irradiation[4].

Summary

Myleran is a drug of relatively recent origin which has been found to have a beneficial effect on the course of chronic granulocytic leukemia. It consistently produces a decrease in the number of circulating granulocytes, probably by depressing granulopoiesis. In excessive doses, however, it may cause a decrease in other formed elements of the blood. Thus the chief toxic manifestation is thrombocytopenia. The drug has been shown to be of no benefit in other types of leukemia or in the myeloblastic phase of chronic granulocytic leukemia.

Twelve patients with chronic granulocytic leukemia were treated with Myleran in doses of 4 to 12 mg. per day until an adequate effect had been obtained. Good to excellent responses were obtained in 7 patients with remissions lasting up to 13 months. Three patients who had leukopenia, thrombocytopenia, or both were not benefited appreciably by the drug. In patients who responded favorably there was subjective improvement, a fall in the leukocyte count, a rise in the hemoglobin level, and a decrease in the size of the spleen.

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Office Management of Urinary Tract Infections

JACK HUGHES, M.D.,
W. M. COPPRIDGE, M.D.
and
L. C. ROBERTS, M.D.
DURHAM

The present availability of a wide variety of chemotherapeutic and antibiotic drugs has influenced greatly the management of urinary tract infections. Most of the acute as well as the chronic infections can now be handled on an outpatient basis. It is our purpose here to present a method for the office management of urinary tract infections based on the study of over 500 ambulatory patients seen during the past four years.

Incidence

A majority of the patients seen in urologic practice ultimately have to be treated for infection. Excluding "chronic prostatitis," 80 per cent of those treated are female—a 4:1 ratio.

Etiology

A discussion of the etiology of urinary tract infection should include the bacteriology. Broad spectrum antibiotics have reduced but not eliminated the need for urine cultures. In conjunction with sensitivity studies cultures are of value, although not to the degree once thought. The infecting organism is most often a gram negative bacillus as shown in the following table.

Table 1

Urine Cultures

Organism	No.	Per Cent
Eschericia coli	419	41.1
Staphylococcus	229	22.4
Aerobacter aerogenes	186	18.2
Proteus	105	10.3
Pseudomonas	48	4.7
Tuberculosis	4	0.4
Miscellaneous	28	2.9
Total	1,019	100.0

Staphylococcus has increased significantly in the past few years, probably because of the emergence of sulfa and penicillin resistant strains. Tuberculosis now constitutes less than 0.5 per cent, and no typhoid bacilli have been identified.

The manner in which organisms gain access to the urinary tract is usually not known, but certain contributing factors are apparent. The three most important are (1) stone, (2) stasis, and (3) "focal infection."

It is not unusual to find a stone, giving few or no symptoms, as the only pathologic abnormality present in a patient with persistent infection. In such cases the infection often clears after removal of the calculus. Figure 1 shows a bladder stone associated with persistent pyuria, which cleared following a vesicolithotomy. Figure 2 is a roentgenogram of the kidney, ureter and bladder, showing bilateral staghorn calculi in a patient who was symptom-free, pyuria having been discovered on routine examination.

Stasis is defined as obstruction to the outflow of urine anywhere along the urinary tract from the external meatus to a calyx in the kidney. Strictures, stones, tumors, anomalous vessels, and congenital anomalies such as ureterocele and horseshoe kidney are a few of the many causes.

The "focal infection" theory has been criticized severely in recent years—no doubt justifiably so in some instances. However, many urinary tract infections are almost certainly secondary to foci elsewhere. Infections in the gallbladder, bowel, vagina, cervix, prostate, and accessory urinary tract glands are thought to be the source of many infecting organisms.

Diagnosis

In most instances it is not too difficult to diagnose correctly the presence of urinary tract infections. In the acute form the presenting symptoms usually suggest infection and the organ involved; one or more of the following symptoms is usually present: disturbance of urination, with or without hematuria; pain referred to the organ involved, and chills and fever. In chronic infections symptoms are usually less severe

Read before the Seaboard Medical Society, Old Point Comfort, Virginia, November 14, 1955.

Fig. 1 Bladder calculus.

Fig. 2 Bilateral staghorn calculi.

or may be absent entirely, there being present nothing more than an asymptomatic pyuria.

In order to make a diagnosis of an infection of the urinary tract, it is necessary to demonstrate pus or bacteria in the urine. There are a few exceptions to this rule which need not be discussed here. By pyuria is meant more than one or two bood cells per high dry microscpic field in urine that has been centrifuged for about two minutes at approximately 1,200 revolutions per minute, the rate of the average centrifuge running at one-half speed. In the female the specimen should be obtained by catherization for obvious reasons. In the male the two-glass test is very helpful in determining whether the upper or lower urinary tract is involved. Stained smears of the urinary sediment are easy to make and are often invauable. Methylene blue can be used if time and facilities are not available for doing gram stains.

Other diagnostic tests that are not indicated routinely are available on an outpatient basis. Cystoscopy, KUB roentgenograms and pvelograms, and urine cultures are done in most instances only if the infection recurs or fails to respond to treatment. Sensitivity studies may be helpful, but are not necessary routinely. Intravenous pyelograms are of value, but their limitations should be kept in mind. Figure 3 demonstrates a calyceal diverticulum by retrograde pyelography; an intravenous pyelogram done previously was reported normal. A cystoscopic examination combined with retrograde pyelography is not difficult to do and carries a high degree of diagnostic accuracy in experienced hands. We do not do this examination routinely; our indications are as follows:

1. Recurrent or persistent infections
2. Certain acute severe infections (usually in hospital patients) not responding to treatment.
3. Pyuria in male children.

Without attempting to be complete, a few points on the differential diagnosis seem desirable. Infections are very often secondary, and the possibility of other disease within and without the urinary tract must be kept in mind. A carbuncle of the kidney or a perinephritic abscess may not be associated with

Fig. 3. Calyceal diverticulum of the left kidney.

pyuria. Vaginitis—bacterial, monilial and trichomonal—is often confused with cystitis; a catheterized specimen of urine and a vaginal smear usually indicate the correct diagnosis. Hunner's ulcer, seen most often in the female but occasionally in the male, resembles cystitis. A pinworm vaginitis in female children and obstruction of the bladder neck in the male may be confused with cystitis.

Treatment

The initial treatment of most urinary tract infections is essentially the same, depending on the severity rather than the organ involved. The systemic manifestations—chills and fever—require bed rest. Occasionally the patient must be hospitalized if the infection is overwhelming or does not respond to treatment promptly.

Treatment of an ambulatory patient with pyuria not requiring hospitalization can be started without making special studies. With few exceptions, one of the newer sulfonamides—Thiosulfil, Gantrisin or Elkosin — should be used first. The recommended dosage is two tablets four times daily for eight doses, then one tablet four times daily for one week. Multiple sulfonamides do not appear to have any advantage in this situation. Examination of several thousand specimens of freshly voided urine from patients taking one of the above drugs has shown no crystalluria produced by the drug. The addition of Serenium or Pyridium to the sulfonamides may be of value in some chronic cases, but has little if any sedative effect on the acutely inflamed bladder. Another reason for employing sulfonamides initially is the low cost—about 5 cents per tablet as compared to 50 cents for most of the antibiotics and Furadantin.

As a rule, if the patient's symptoms are still present at the end of 48 hours, if the pyuria persists for a week, or if the patient is known to be allergic to the sulfonamides, Furadantin, 100 mg. four times daily for one week, is prescribed. This drug should be taken immediately after meals and with milk at bedtime in order to reduce the gastrointestinal irritation. Nausea occurs in about 15 per cent of patients receiving Furadantin, and vomiting necessitates discontinuing the drug in about one third of these cases. Thorazine, 10 to 25 mg. before meals and 30 minutes before the bedtime dose, reduces the incidence of nausea and vomiting. No serious reactions to Furadantin have been observed. If Furadantin is not tolerated, then tetracycline, 250 mg. four times daily for one week, should be given. The bacteriologic spectrum of tetracycline is similar to Furadantin, but serious gastrointestinal reactions occur often enough to preclude routine use. Perhaps Mysteclin, which is a combination of tetracycline and mycostatin, will show fewer reactions; it is still too soon to tell. Chloromycetin has a similar spectrum; when used over a short period of time it is probably no more toxic than other broad spectrum antibiotics. Polymyxin, neomycin, and streptomycin must be given in the hospital and are indicated in only a few selected cases. Penicillin is rarely the drug of choice in the treatment of urinary tract infections, because the organism is usually a gram-negative bacillus and most of the cocci have become resistant to penicillin. Mandelamine, 1 Gm. four times daily for three to four weeks, is of value in some chronic urinary tract infections that fail to respond to other drugs.

Acute infections should show improvement in 48 hours and chronic ones in one to two

weeks. If not, the second drug of choice and then the third, if necessary, should be tried. Lack of improvement after the second or third drug has been tried, persistence of the pyuria beyond two weeks, or recurrence of the infection calls for further investigation. Roentgenograms, including intravenous pyelograms, may show the pathologic process, but a diagnosis of a nonobstructive chronic urinary tract infection should not be made until cystoscopy, urethroscopy, and retrograde pyelograms have been done. Urine cultures and sensitivity studies probably should be done in all infections not responding to treatment, especially when surgery is contemplated. However, it is often a matter of trying different drugs, singly or in combination, until the infection is either cured or controlled. Some patients with incurable chronic infections can be kept free of symptoms and show little or no pyuria on maintenance doses of a sulfonamide or Furadantin. We have 11 such patients who have been taking one or two tablets of Gantrisin or Thiosulfil daily for as long as five or six years. Each time the drug is stopped there is a recurrence. Three patients who could not be controlled with the sulfonamides are kept symptom-free by taking one Furadantin tablet daily. Infections during pregnancy often require a maintenance regimen.

All patients who have been treated for urinary tract infections should be followed for at least six months to rule out an asymptomatic persistence or recurrence of the infection. Depending on the response to treatment, they should be seen every two to six weeks after the symptoms subside. Urine cultures at the time of follow-up visits are desirable but not absolutely necessary in all cases.

In acute infections, highly seasoned foods and alcohol should be avoided and fluids forced until there is definite symptomatic improvement. Sexual intercourse is likely to aggravate an acute process in the lower urinary tract. Soft drinks and most foods do not appear to influence the symptoms or the course of the infection.

A few of the more common infections should be discussed in a little more detail. So-called "honeymoon cystitis" in the newly married woman occurs with the sudden onset of frequent painful urination with or without hematuria and usually responds to the sulfonamides. It may recur several times during the first year. A complete study is indicated if recurrence occurs after the first year.

In acute cystitis in the male a stained smear of the urinary sediment should be made. No organism will be found in about 25 to 30 per cent of the cases, the infecting organism probably being a virus. In the absence of bacteria, tetracycline should be given initially, because Furadantin and the sulfonamides are rarely effective. If bacilli are found, a sulfonamide is the drug of choice; if cocci (excluding Neisseria gonorrheae) are present, Furandantin should be given. If a stained smear is not made, tetracycline is the drug of choice.

Prostatitis can be discussed under the heading of urinary tract infections, since the bladder and urethra are usually involved sooner or later. Acute prostatitis is treated in the same manner as acute cystitis in the male. Stained smears of the urinary sediment should be made to determine the drug of choice; sedatives and sitz baths are often indicated. Furadantin may be effective in chronic prostatitis, but it is usually necessary to give prostatic massages and instillations also.

"Chronic urethritis" in the female is often discovered during treatment for an acute cystitis that usually accompanies it from time to time. After the acute symptoms subside, urethral dilatations and instillations are carried out for a period. Furacin urethral suppositories inserted after each dilatation appear to be of much benefit.

In gonorrhea penicillin—400,000 to 600,000 units given intramuscularly—is still the best drug. In individuals who are allergic to penicillin, tetracycline can be used. A serologic test should be done before treatment and repeated three months, six months, and a year afterward to be certain a luetic infection has not been masked.

Summary

This discussion can be summarized by listing a few important general principles of diagnosis and treatment and by giving some impressions of the drugs available for treatment of urinary tract infections.

General Principles

1. Determine whether pyuria is present. Catheterize the female; use the 2-glass test in the male.

2. Use the drug of choice but change to another if there is no response in 48 hours (in acute cases) or if pyuria persists after one week. Do not undertreat; continue the medication for at least one week, and longer if necessary.

3. Follow cases for at least six months.

4. Make a complete urologic study for persistence or recurrence of the infection in all patients and with initial infection in all *male children.*

Drugs

1. Sulfonamides: Thiosulfil, Gantrisin and Elkosin. These are the drugs of choice initially in most cases. They have a broad spectrum, low toxicity, and are inexpensive.

2. Furadantin (100 mg. given four times daily for one week). Use if the sulfonamide fails, particularly in chronic infections. Nausea occurs in 15 per cent and vomiting in 5 per cent of the cases, but no serious reactions have been reported. They are expensive.

3. Broad spectrum antibiotics (250 mg. four times daily). Aureomycin, Terramycin, Tetracyn, Achromycin, Panmycin, Mysteclin, etc. These drugs occasionally cause severe gastrointestinal disorders. They are expensive.

4. Chloromycetin (250 mg. given four times daily for one week). Use if there is no response to other drugs. Occasionally causes gastrointestinal complication. Suppression of bone marrow reported on prolonged use. It is expensive.

5. Mandelamine (1 gm. given four times daily for four to six weeks). Possesses low order toxicity. Inexpensive.

6. Polymyxin, streptomycin and neomycin. These drugs are of value in selected hospital cases. Moderate toxicity and expensive.

7. Pyridium and Serenium. Bladder analgesic only. Inexpensive and probably nontoxic.

8. Sulfonamide mixtures. These probably hold no advantage over single sulfonamides. Inexpensive.

9. Bladder mixtures, alkaline and acid, with and without phenobarbital. These are inexpensive, possess low toxicity, and probably are of value in an agitated patient with an irritated bladder.

What does the average doctor do on his vacation. According to survey results reported in the June issue of *Medical Economics*, he takes three weeks off, drives 1,500 miles, and spends nearly $1,000.

"Almost half the doctors surveyed took at least two vacations last year," the magazine reports. "About 15 per cent took three or more." And another 15 per cent took no vacation at all.

Most vacationing doctors travel by car *Medical Economics* found. Some "70 per cent covered 1,000 miles or more. More than half this group put at least 2,500 miles on the speedometer."

The biggest proportion likes to go to the seashore. Another good-sized group prefers the mountains. The M.D.s' favorite vacation areas are Florida, New England, and the Rocky Mountains.

"Fishing is far and away the favorite vacation diversion," says *Medical Economics*. "It draws top rating from 25 per cent of the respondents. Sight-seeing ranks second, followed by swimming, loafing, and golf."

Naturally, the doctor has a hard time *keeping* his vacation a vacation. Many people want free medical advice. To avoid this pitfall, reports the magazine, "almost half of all the doctors who take vacations travel incognito."

North Carolina Medical Journal

Owned and published by
The Medical Society of the State of North Carolina,
under the direction of its Editorial Board.

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Address manuscripts and communications regarding editorial matter to the
NORTH CAROLINA MEDICAL JOURNAL
300 South Hawthorne Road, Winston-Salem 7, N. C.

Questions relating to subscription rates, advertising, etc., should be addressed to the Business Manager, 203 Capital Club Building, Raleigh, N. C.

All advertisements are accepted subject to the approval of a screening committee of the State Journal Advertising Bureau, 510 North Dearborn Street, Chicago 10, Illinois and/or by a Committee of the Editorial Board of the North Carolina Medical Journal in respect to strictly local advertising accepted for appearance in the North Carolina Medical Journal.

Annual subscription, $3.00 Single copies, 50¢

Publication office: Carmichael Printing Co., 118 West Third Street, Winston-Salem 1, N. C.

"The prime object of the medical profession is to render service to humanity; reward or financial gain is a subordinate consideration. Whoever chooses this profession assumes the obligation to conduct himself in accord with its ideals."—Principles of Medical Ethics of the American Medical Association, Chapter 1, Section 1.

JULY, 1956

STATE MEDICAL SOCIETY TO MEET IN ASHEVILLE IN 1957

Since 1944 every meeting of the Medical Society of the State of North Carolina, with one exception, has been held in Pinehurst, with the Carolina Hotel as headquarters. Its central location, good food and service, and the freedom from distracting counterattractions, made it the choice of the nominating committee year after year. Many members, especially those who live in the eastern part of the state, will be disappointed that the 1957 meeting will not be held in Pinehurst, and perhaps many who did not attend the last annual meeting will wonder why the change was made. Here is the explanation.

After the House of Delegates in 1955 voted to admit non-white members as scientific members, the management of the Carolina Hotel notified the executive secretary of the State Society that if a single Negro were made eligible to come into the hotel, the reservations for the next meeting would be cancelled. Since the issue did not arise before the 1956 meeting, the meeting was held in Pinehurst as scheduled. Before the 1957 meeting, however, it will be necessary to prepare for our Negro colleagues. Since the Carolina Hotel management reaffirmed its stand after the 1956 meeting, it was necessary to find another meeting place, and Asheville has been selected, with May 5 to 8 as the time, and the Battery Park and George Vanderbilt Hotels, with the auditorium between them, as headquarters.

Fortunately the management of both these hotels, which are under the same ownership, is quite willing to admit Negroes to the scientific and business sessions. The combined capacity of these two hotels is considerably greater than the Carolina's, and the auditorium between them offers excellent facilities for the scientific and technical exhibits, as well as for the annual dinner.

* * *

ALCOHOL OR ACCIDENT?

Last month's issue of this JOURNAL told of the compromise counties' rights form of a medical examiner system to replace the antiquated coroner system. A dramatic illustration of the value of an effective medical examiner system occurred recently, when a bridegroom fell from an airplane the day after he was married. The inevitable question arose as to how it happened. The charge has been made that he had been drinking heavily before boarding the plane. The widow denies this.

Now she is suing the air line company, and a large sum of money is at stake. An "inquest" was ordered 12 days after the accident—too late to be of any aid in determining whether or not the man was intoxicated.

Apparently it had not occurred to any of the interested parties that an examination of the dead man's blood or liver soon after the accident would have given definite proof as to whether or not he had enough alcohol concentration in his system to cause intoxication, and so settled the matter beyond dispute.

It is now too late to make such an ex-

amination, but it is not too late to build up increasing pressure for a statewide medical examiner system, and for the recognition of the alcohol concentration test as a reliable means of determining whether or not a man is drunk.

* * *

THE AMERICAN MEDICAL ASSOCIATION

The one hundred fifth annual meeting of the American Medical Association was held in Chicago, June 11 to June 15. Unfortunately the intense heat that prevailed during the entire meeting made a veritable oven of the Navy Pier, which housed the exhibits, both scientific and technical, and also some of the most important conferences. A few visitors sensibly wore sport shirts, but most of those in attendance sweltered in conventional shirts and ties. Most coats were carried over the owners' arms, although a few were worn. By contrast, the section meetings held in air-conditioned hotels were far more popular.

The House of Delegates met comfortably in the ballroom of the Palmer House. As usual, it had a busy time. One attending a session of this body can hardly fail to be impressed by its efficiency and its democracy. Its transactions will be published in successive issues of the *Journal of the A.M.A.*, but a few of its major actions may be of interest to our readers.

Dr. David B. Allman, of Atlantic City, was unanimously chosen as President-Elect. Dr. Allman made many friends as a guest at the last meeting of our State Society. His address, "Medicine in a Changing World," delivered before the first general session, appears as the leading article of this issue of the JOURNAL. Dr. Allman has been a trustee of the A.M.A. since 1951, and was chairman of the important Committee on Legislation.

The selection of the veteran, Dr. Walter L. Bierring, for the Distinguished Service Award was another very popular choice.

The report of the Committee to review the work of the Joint Commission on Accreditation of Hospitals was approved by the House of Delegates. Among the recommendations of the Committee were:

1. Accreditation of hospitals should be continued.

* * *

4. Physicians should be on the administrative bodies of hospitals.

5. General practice sections in hospitals should be encouraged.

6. Staff meetings required by the Joint Commission are acceptable, but attendance requirements should be set up locally and not by the Commission.

* * *

15. The American Medical Association should conduct an educational campaign for doctors relative to the functions and operations of the Joint Commission.

The House also approved a reference committee suggestion urging that the Joint Commission study:

1. The problems of the exclusion from hospitals and arbitrary limitation of the hospital privileges of the general practitioner, and

2. Methods whereby the following stated principles may be achieved:

"The privileges of each member of the medical staff shall be determined on the basis of professional qualifications and demonstrated ability.

"Personnel of each service or department shall be qualified by training and demonstrated competence, and shall be granted privileges commensurate with their individual abilities."

Another important action was the approval in principle of a program to evaluate graduates of foreign medical schools seeking hospital positions in the United States.

The proposed plan calls for establishment of a central administrative organization to evaluate the medical credentials of foreign trained physicians desiring to serve as interns or residents in American hospitals. Basic requirements would include satisfactory evidence of at least 18 years of total formal education, including a minimum of 32 months in medicine exclusive of any time which in this country would be considered as premedical study or internship. Applicants with satisfactory credentials then would take a screening examination to determine their medical knowledge and their facility with the English language. Successful applicants then would be certified to hospitals and other interested organizations, with the approval of the foreign-trained physician concerned.

One of the most controversial issues was the problem of private practice by medical school faculty members. This has been under study by the Committee on Medicine and Related Facilities of the Council on Medical Service. The House adopted a Council report which stated

that it shall be the policy of the American Medical Association that funds received from the private practice of medicine by salaried members of the clinical faculty of the medical school or hospital should not accrue to the general budget of the institution and that the initial disposition of fees for medical service from paying patients should be under the direct control of the doctor or doctors rendering the service.

This Council report also said:

it is not in the public or professional interest for a third party to derive a profit from payment received for medical services, nor is it in the public or professional interest for a third party to intervene in the physician-patient relationship.

Another important resolution adopted by the House read as follows:

Whereas, In recent years, events have indicated the necessity for a closer liaison between the pharmaceutical manufacturer and the American Medical Association; and

Whereas, In view of the tremendous number of new drugs being developed and the expanding research programs in medical colleges, clinics and hospitals being financed by the drug industry, it is imperative that the manufacturer and the medical profession develop cooperatively guiding principles which will protect the American people from being subjected to the premature release of information pertaining to new products or techniques; and

Whereas, Competition within the pharmaceutical industry has become extremely keen so that in the advertising of their products drug manufacturing firms have been forced into the expenditure of larger and larger sums of money and in increasingly broader fields of advertising; therefore be it

Resolved, That the Board of Trustees of the American Medical Association appoint a liaison committee to meet with representatives of the pharmaceutical manufacturers to accomplish this objective.

North Carolina was fairly well represented at this meeting, with 55 physicians registered. Dr. Elias Faison was introduced together with the other new members of the House of Delegates. Dr. Frank Lock, of Winston-Salem, was chairman of the Section on Obstetrics and Gynecology.

The total registration was 27,115, with 9,969 physicians.

EDITORIAL NOTES—A.M.A.

Dr. Dwight H. Murray's inaugural address, published in the *J.A.M.A.* for June 23, was an eloquent plea for combining scientific medicine with the personal interest felt in his patients by the old-time family doctor. Dr. Murray could make this plea in all sincerity, since he himself has been a general practitioner for more than 35 years.

* * *

The high light of the State Presidents' Conference on Sunday afternoon was the address, illustrated by lantern slides, of Mr. Henry Viscardi, Jr.—"Workers in Wheelchairs." Mr. Viscardi, who himself walks on artificial limbs, formed a corporation eight years ago which employs only physically handicapped people. The first year there were only a few employees, but a small profit was earned. Last year 252 employees brought in a gross income ot $1,200,000.00.

* * *

It was good to see Drs. Elmer Hess, Warren Furey, David Allman, and George Lull —all guests of our State Society at its last meeting. It was gratifying to hear them all praising our State Society and its program.

* * *

Dr. Donald Koonce made the headlines of the Chicago papers after reporters learned of the decision of our State Society to admit Negro members.

* * *

It is unfortunate that the airport in Chicago is separated from the city by a grade crossing. It is not an uncommon experience for a limousine or taxicab to be held up by a long freight train for 20 minutes or more—long enough to miss connection with the plane. It seems that a city as large as Chicago would have outgrown grade crossings.

* * *

Dr. David Allman, of Atlantic City, was chosen President-Elect without opposition. Those who met Dr. Allman and heard him speak when he was a guest of our State Society can readily understand that his selection was a popular one, and can be sure that he will maintain the high standard set by his predecessors.

President's Message

I don't think that any doctor in his right mind would oppose adequate medical care for the physically and financially handicapped. Yet, there seems to be a definite sense of unhappiness and misunderstanding in the minds of many members of the medical profession in North Carolina concerning the administration of the various government aids available in such cases. The ideology behind the numerous welfare plans and administrative groups cannot be questioned, but the practical implementation of those plans in many cases leaves a great deal to be wanted. Some welfare aids specify that the recipient shall be indigent, another only that he be a handicapped wage-earner. If the patient is a wage-earner and can adequately afford the needed medical care through voluntary means, government aid is—whether we like it or not—state or socialized medicine. If the patient is indigent, he is a ward of society and his hospital and ancillary care should be, and must be, provided through local, state and federal funds. The professional medical care of indigent m e d i c a l patients, however, should be the privilege of the medical profession and not the obligation of the taxpayer. Available funds for the care of the indigent patients should be used for hospital and ancillary care entirely, and not for medical fees.

Available public funds for the adequate medical care of indigent patients should not be something sought after by members of the medical profession for their own financial gain Not a few groups and individual members of our profession make quite a good thing out of their connections with these welfare agencies. The medical profession as a whole should exert more adequate supervision over the distribution and use of these public funds for professional medical care. There are advisory committees, of course, but, at present, they are of little avail. There should be no favoritism in the distribution of these funds.

Special professional qualifications for participation in these programs are, of course, necessary but equally qualified men in identical situations should have an equal chance for participation. It is true, and justly so, that teaching institutions have the opportunity to participate in more cases than other groups, because many of the cases need multiple or specially trained services available only in teaching institutions. However, locally available and adequately certified services should be used to their fullest. At no time should an administrator be in a position to decide which doctor is qualified for participation and which is not. At no time should an administrative assistant be in a position to decide which qualified doctor should be used.

In the administration of broad plans such as these welfare aids, inequities and discrepancies are inevitable. They should be drastically curbed, however. How many of us have had patients under the Crippled Children Plan whose parents have demanded a private room and stated that they were able to pay for it? How many of us have had patients under Vocational Rehabilitation who have owned a good-sized farm without a mortgage on it? How many of us have had patients under the School Health Program whose parents had an adequate income to furnish the medical needs of their children? How many district offices of such bureaus are graded by the number of grants they make rather than the actual necessity of the grants?

Again, the actual medical care of the indigent sick should be the privilege of the medical profession and the adequate medical care of the financially sound the obligation of the individual.

Donald B. Koonce, M.D.

Federal appropriations for medical research are at an all-time record, explained in part by Senate approval of a 48 per cent increase over last year's funds—Washington Office of the A.M.A.

Committees and Organizations

SCHEDULE OF COMMITTEE APPOINTMENTS, 1956-57

NOTE: The Committees listed herein have been authorized by President Donald B. Koonce and/or are required under the Constitution and By-Laws.

1. Committee to Work with the North Carolina Industrial Commission (6)

Wm. F. Hollister, M.D., Chairman, c/o Moore County Hospital, Pinehurst
Charles T. Wilkinson, M.D., 205 Waite Street, Wake Forest
Guy L. Odum, M.D., Duke Hospital, Durham
Thomas B. Dameron, Jr., M.D., 309 Hillsboro Street, Raleigh
Grover C. Bolin, Jr., M.D., 423 Hancock St., Smithfield
J. S. Mitchener, Jr., M.D., Scotland County Memorial Hospital, Laurinburg

2. Committee Advisory to the Auxiliary (6)

Roscoe D. McMillan, M.D., Chairman, Box 232, Red Springs
John P. Harloe, M.D., 508 Professional Bldg., Charlotte
Jean C. McAlister, M.D., 104 E. Northwood St., Greensboro
James Tidler, M.D., 306 N. 11th St., Wilmington
Joshua F. B. Camblos, M.D., 500 New Medical Bldg., Asheville
Rowena S. Hall, M.D., 920 S. 17th Street, Wilmington

3. Committee on Child Health (7)

Angus M. McBryde, M.D., Chairman, 809 W. Chapel Hill Street, Durham
Edward C. Curnen, Jr., M.D., UNC School of Medicine, Chapel Hill
J. Buren Sidbury, Sr., M.D., 15 N. 5th Street, Wilmington
Donnie H. Jones, Jr., M.D., P.O. Box 67, Princeton
Clyde R. Hedrick, M.D., Box 619, Lenoir
Richard W. Borden, M.D., Box 386, Goldsboro
F. A. Blount, M.D., 4th Street at Spring, Winston-Salem

4. Committee on Cancer (12) (Legal—1 ea. Congressional District)

James F. Marshall, M.D., Chairman, (5th) 310 W. 4th Street, Winston-Salem
Hubert McN. Poteat, Jr., M.D., (4th) 207 S. Third Street, Smithfield
R. Bertram Williams, M.D., (7th) 308 N. 3rd Street, Wilmington
Mark McD. Lindsey, M.D., (8th) Hamlet Hospital, Hamlet
Charles I. Harris, Jr., M.D., (1st) Martin General Hospital, Williamston
H. Fleming Fuller, M.D., (2nd) Kinston Clinic, Kinston
Corbett E. Howard, M.D., (3rd) Drawer 1141, Goldsboro
Robert J. Reeves, M.D., (6th) Duke Hospital, Durham
David L. Pressly, M.D., (9th) Stearns Bldg., Statesville
John A. Brabson, M.D., (10th) 1627½ Elizabeth Ave., Charlotte
Harry D. Riddle, M.D., (11th) 166 W. Franklin Street, Gastonia
Joshua F. B. Camblos, M.D., (12th) 500 New Medical Bldg., Asheville

5. Committee on Finance (3)

Wayne J. Benton, M.D., Chairman, 514½ S. Elm Street, Greensboro
Vonnie M. Hicks, M.D., 127 W. Hargett Street, Raleigh
Arthur L. Daughtridge, M.D., Box 111, Rocky Mount

6. Committee on Hospitals and Professional Relations and the Corporate Practice of Medicine (10) 1 ea. District

F. M. Simmons Patterson, M.D., Chairman, 1402 Rhem Avenue, New Bern
Hubert McN. Poteat, Jr., M.D., 207 S. Third Street, Smithfield
Harold B. Kernodle, M.D., Kernodle Clinic, Burlington
Robert M. Fales, M.D., 913 Murchison Bldg., Wilmington
Frank Wood, M.D., Chowan Hospital, Edenton
William E. Adair, Jr., M.D., Box 578, Erwin
Monroe T. Gilmour, M.D., 1351 Durwood Drive, Charlotte
George T. Wood, Jr., M.D., 330 Locke Street, High Point
James S. Raper, M.D., 20 Battery Park Avenue, Asheville
Jacob H. Shuford, M.D., 7 Main Avenue Place, S.W., Hickory

7. Committee on Occupational Health (6)

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Wm. P. Richardson, M.D., Box 758 N. C. Memorial Hospital, Chapel Hill
G. Norman Boyer, M.D., 26 W. Jordan Street, Brevard
Logan T. Robertson, M.D., 17 Charlotte Street, Asheville
Manson Meads, M.D., Bowman Gray School of Medicine, Winston-Salem
Mac Roy Gasque, M.D., Ecusta Paper Corp., Pisgah Forest

8. Committee on Legislation (5)

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Donald B. Koonce, M.D., President (Ex Officio) 408 N. 11th Street, Wilmington
Millard D. Hill, M.D., Secretary, (Ex Officio) 15 W. Hargett Street, Raleigh

9. Advisory Committee to the North Carolina Medical Care Commission (5)

Frederick C. Hubbard, M.D., Chairman, Box 30, North Wilkesboro
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Charles I. Harris, Jr., M.D., Martin General Hospital, Williamston
George W. Holmes, M.D., 620 Nissen Bldg., Winston-Salem
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Robert N. Creadick, M.D., Box 3608 Duke Hospital, Durham
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14. Committee on Publications (5)

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Wm. McN. Nicholson, M.D., Duke Hospital, Durham
G. Westbrook Murphy, M.D., 611 Flatiron Bldg., Asheville
John B. Graham, M.D., Box 1020, Chapel Hill

15. Committee on Public Relations (3) (7 District Consultants)

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John W. Morris, M.D., 900 Shepard Street, Morehead City
John P. U. McLeod, M.D., McLeod Clinic, Marshville
Hershel C. Lennon, M.D., 338 N. Elm Street, Greensboro

21. Committee on Maternal Health (12)

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Hugh A. McAllister, M.D., Medical Arts Bldg., Lumberton (term expires 1958)
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22. Committee on Veterans Affairs (6)

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Hugh A. Thompson, M.D., 309 Hillsboro Street, Raleigh
Elias S. Faison, M.D., 1012 Kings Drive, Charlotte
James P. Rousseau, M.D., 1014 West Fifth Street, Winston-Salem

28. Committee on Military Service (6)

George W. Paschal, Jr., M.D., Chairman, 311 Lands Bldg., Raleigh
Ralph J. Sykes, M.D., 205 Rawley Avenue, Mt. Airy
John P. Bond, M.D., 155 S. York Street, Gastonia
H. Mack Pickard, M.D., 7 N. 17th Street, Wilmington
Thomas D. Slagle, M.D., Box 456, Sylva
W. Walton Kitchin, M.D., Sampson County Hospital, Clinton

29. Committee to Revise the Constitution and By-Laws (5)

Roscoe D. McMillan, M.D., Chairman, Box 232, Red Springs
Moir S. Martin, M.D., 314 Cherry Street, Mt. Airy
J. Stuart Gaul, Sr., M.D., 315 Professional Bldg., Charlotte
Louis DeS. Shaffner, M.D., 300 S. Hawthorne Road, Winston-Salem
William G. Spencer, Jr., M.D., 301 West End Avenue, Wilson

30. *Mediation Committee (5)—1st five past-presidents*

Frederick C. Hubbard, M.D., Chairman, Box 30, North Wilkesboro

James P. Rousseau, M.D., Secretary, 1014 West Fifth Street, Winston-Salem
J. Street Brewer, M.D., Box 98, Roseboro
Joseph A. Elliott, Sr., M.D., 1012 Kings Drive, Charlotte
Zack D. Owens, M.D., Medical Bldg., Elizabeth City

31. Committee on Eye Care (To work with the North Carolina State Board of Health, N. C. Commission for the Blind and the School Health Program) (6)

Alan Davidson, M.D., Chairman, Box 1313, New Bern
Horace M. Dalton, M.D., 400 Glenwood Avenue, Kinston
R. Winston Roberts, M.D., 300 S. Hawthorne Road, Winston-Salem
Walter C. Humbert, M.D., Box 726, Greenville
John D. Wilsey, III, M.D., 310 W. 4th Street, Winston-Salem
Elbert C. Anderson, M.D., 806 Murchison Bldg., Wilmington

32. Committee of Physicians on Nursing (7)

Harry L. Brockmann, M.D., Chairman, 649 N. Main Street, High Point
David T. Smith, M.D., Duke Hospital, Durham
Moir S. Martin, M.D., 314 Cherry Street, Mt. Airy
Vernon H. Youngblood, M.D., Rt. 8, Kannapolis-Concord Highway, Concord
Wm. G. Spencer, Jr., M.D., 301 W. End Avenue, Wilson
W. Reece Berryhill, M.D., UNC School of Medicine, Chapel Hill
W. D. James, Jr., M.D., Hamlet Hospital, Hamlet

33. Committee to Study Care and Control of Chronic Illness (8)

James P. Rousseau, M.D., Chairman, 1014 West Fifth Street, Winston-Salem
Wm. M. Coppridge, M.D., 1200 Broad Street, Durham
J. Street Brewer, M.D., Box 98, Roseboro
John R. Kernodle, M.D., Kernodle Clinic, Burlington
Merle D. Bonner, M.D., 1023 N. Elm Street, Greensboro
John L. Winstead, M.D., 1001 E. Fourth Street, Greenville
Lenox D. Baker, M.D., Duke Hospital, Durham
Melvin W. Webb, M.D., Webb Clinic, Burnsville

34. Committee on Archives of Medical Society History (4 Members) (3 Consultants)

James P. Rousseau, M.D., Chairman, 1014 West Fifth Street, Winston-Salem
Wingate M. Johnson, M.D., 300 S. Hawthorne Road, Winston-Salem
G. Westbrook Murphy, M.D., 611 Flatiron Bldg., Asheville
Paul F. Whitaker, M.D., 1205 N. Queen Street, Kinston
Wilburt C. Davison, M.D., Consultant, Duke Hospital, Durham
Coy C. Carpenter, M.D., Consultant, Bowman Gray School of Medicine, Winston-Salem
James B. Bullitt, M.D., Consultant, Medical Bldg., Chapel Hill

35. Reference Committee on Credentials of Delegates to House of Delegates (4)

Milton S. Clark, M.D., Chairman, 139 W. Walnut Street, Goldsboro
Edward S. Bivens, M.D., Stanly County Hospital, Albemarle
T. Tilghman Herring, M.D., Wilson Clinic, Wilson

36. Committee on General Practitioner Award (5)

Ben H. Kendall, M.D., Chairman, Shelby Medical Center, Shelby
Wm. A. Sams, M.D., Box BB, Marshall
Wayne J. Benton, M.D., 514½ S. Elm Street, Greensboro
J. Grover Raby, M.D., 300 St. Patrick Street, Tarboro
Alban Papineau, M.D., Plymouth Clinic, Plymouth

37. Nominating Committee (10)

John A. Payne, III, M.D.
First Medical District
Sunbury
Ben F. Royal, M.D.
Second Medical District
Box 628, Morehead City
Graham B. Barefoot, M.D.
Third Medical District
10th & Rankin Streets, Wilmington
Bennett Edward Stephenson, M.D.
Fourth Medical District
Box 206, Rich Square
R. D. Croom, Jr., M.D.
Fifth Medical District
Carpenter Bldg., Maxton
J. Leonard Goldner, M.D.
Sixth Medical District
Duke Hospital, Durham
Claude B. Squires, M.D., Chairman
Seventh Medical District
403 N. Tryon Street, Charlotte
Walter T. Tice, M.D.
Eighth Medical District
649 N. Main Street, High Point
William M. Long, M.D.
Ninth Medical District
S. Main Street, Mocksville
John B. Anderson, M.D.
Tenth Medical District
201 Haywood Bldg., Asheville

38. Committee on Heart Disease Control (7)

Monroe T. Gilmour, M.D., Chairman, 1351 Durwood Drive, Charlotte
Elias S. Faison, M.D., 1012 Kings Drive, Charlotte
Robert L. McMillan, M.D., Bowman Gray School of Medicine, Winston-Salem
Ernest Craige, M.D., N. C. Memorial Hospital, Chapel Hill
James P. Hendrix, M.D., Box 3408, Duke Hospital, Durham
Robert T. Pigford, M.D., 1015 Murchison Bldg., Wilmington
James C. Bruce, M.D., 1029 Madison Avenue, Greensboro

39. Committee on Vocational Rehabilitation (6)

George W. Holmes, M.D., Chairman, 620 Nissen Bldg., Winston-Salem
Roy B. McKnight, M.D., Hawthorne Medical Center, Charlotte
Harry D. Riddle, M.D., 166 W. Franklin Street, Gastonia
J. Leonard Goldner, M.D., Duke Hospital, Durham
Charles H. Ashford, M.D., 603 Pollock Street, New Bern
Edwin J. Wells, M.D., 504 Murchison Bldg., Wilmington

40. Advisory Committee to the North Carolina State Board of Public Welfare (5)

Logan T. Robertson, M.D., Chairman, 17 Charlotte Street, Asheville
Wm. W. Noel, M.D., 309 Wyche Street, Henderson
Avon H. Elliot, M.D., State Board of Health, Raleigh
Frank P. Ward, M.D., 501 W. 27th Street, Lumberton
Paul F. Whitaker, M.D., 1205 N. Queen Street, Kinston

41. Committee Advisory on School Health and State Coordinating Service (6)

William T. Rainey, Sr., M.D., Chairman, 107 Bradford Avenue, Fayetteville
Charles H. Gay, M.D., 1012 Kings Drive, Charlotte
Wm. G. Spencer, Jr., M.D., 301 West End Avenue, Wilson
H. G. Moore, Jr., M.D., 1010 Grace Street, Wilmington
Charles W. Wharton, M.D., 7-A Thornton Bldg., Smithfield
Harry W. Winkler, M.D., 1500 Elizabeth Avenue, Charlotte

42. Committee on Eye Bank (6)

Wm. Banks Anderson, M.D., Chairman, Box 3802, Duke Hospital, Durham
Raymond F. Grove, M.D., 905 Murchison Bldg., Wilmington
Edwin Hale Thornhill, M.D., 720 W. Jones Street, Raleigh
J. David Stratton, M.D., 1012 Kings Drive, Charlotte
Edward E. Moore, M.D., 706 Flatiron Bldg., Asheville
John D. Wilsey, III, M.D., 310 W. 4th Street, Winston-Salem

43. Committee on Blood Program (7)

Kenneth M. Brinkhous, M.D., Chairman, UNC School of Medicine, Box 1020, Chapel Hill
H. Lee Large, Jr., M.D., Presbyterian Hospital, Charlotte
James T. Littlejohn, M.D., 310 New Medical Bldg., Asheville
Thomas N. Lide, M.D., City Memorial Hospital, Winston-Salem
Thomas B. Wilson, M.D., Rex Hospital, Raleigh
Ivan W. Brown, Jr., M.D., Duke Hospital, Durham
Robert E. Klein, M.D., Bowman Gray School of Medicine, Winston-Salem

44. Anesthesia Study Commission (9)

David A. Davis, M.D., Chairman, N. C. Memorial Hospital, Chapel Hill
Charles R. Stephen, M.D., Box 3535, Duke Hospital, Durham
Roscoe L. Wall, Sr., M.D., Bowman Gray School of Medicine, Winston-Salem
Horace M. Baker, Jr., M.D., Medical Arts Bldg., Lumberton
Duncan G. Calder, Jr., M.D., Ardsley Road, Concord
Frank S. Parrott, M.D., 126 W. Innes Street, Salisbury
Joseph S. Hiatt, Jr., M.D., 208 S.W. Broad Street, Southern Pines
Williamson Z. Bradford, M.D., 1509 Elizabeth Avenue, Charlotte
Will Camp Sealy, M.D., Duke Hospital, Durham

45. Committee on Scientific Audio-Visual Postgraduate Instruction (7)

J. Leonard Goldner, M.D., Chairman, Duke Hospital, Durham
Lenox D. Baker, M.D., Duke Hospital, Durham
J. O. Williams, M.D., Cabarrus County Hospital, Concord
Ernest H. Wood, M.D., N. C. Memorial Hospital, Chapel Hill
W. Walton Kitchin, M.D., Sampson County Hospital, Clinton
Charles H. Mauzy, Jr., M.D., Bowman Gray School of Medicine, Winston-Salem
Robert W. Williams, M.D., 1007 Murchison Bldg., Wilmington

46. Committee Advisory to Student AMA Chapters in North Carolina (3)

Charles E. Flowers, M.D., Chairman, N. C. Memorial Hospital, Chapel Hill
Richard T. Myers, M.D., 300 S. Hawthorne Road, Winston-Salem
James P. Hendrix, M.D., Box 3408, Duke Hospital, Durham

47. Committee on Medical Golf Tournament (4)

Joseph W. Hooper, M.D., Chairman, 410 N. 11th Street, Wilmington
W. Boyd Owens, M.D., 1426 N. Main Street, Waynesville
Seba L. Whitehead, M.D., 508 Public Service Bldg., Asheville
Wm. A. Brewton, M.D., 5 Lake Drive, Enka

48. Committee Liaison to Study Integration of Negro Physicians into Medical Society of the State of North Carolina (3)

J. Street Brewer, M.D., Chairman, Box 98, Roseboro
Paul F. Whitaker, M.D., 1205 N. Queen Street, Kinston
Ben F. Royal, M.D., Box 628, Morehead City

49. Committee to Study Medical Education and Medical Care at the House Officer Level (12)

Wayne J. Benton, M.D., Chairman, 514½ S. Elm Street, Greensboro
Wilbert C. Davidson, M.D., 3701 Duke Hospital, Durham
Coy C. Carpenter, M.D., Bowman Gray School of Medicine, Winston-Salem
W. Reece Berryhill, M.D., UNC School of Medicine, Chapel Hill
Graham B. Barefoot, M.D., 10th & Rankin Streets, Wilmington
Thomas L. Umphlet, M.D., 119 N. Boylan Avenue, Raleigh
Thomas T. Jones, M.D., 604 W. Chapel Hill Street, Durham
Joe Milton Van Hoy, M.D., 1012 Kings Drive, Charlotte
John B. Anderson, M.D., 201 Haywood Bldg., Asheville
Duncan Roland McEachern, M.D., 203 Murchison Bldg., Wilmington
Howard M. Starling, M.D., 505 Reynolds Bldg., Winston-Salem
David M. Cogdell, M.D., 911 Hay Street, Fayetteville

50. Committee to Study Medical Credit Bureaus (5)

W. Howard Wilson, M.D., Chairman, 403 Professional Bldg., Raleigh
Fred K. Garvey, M.D., Co-Chairman, Bowman Gray School of Medicine, Winston-Salem
Moir S. Martin, M.D., 314 Cherry Street, Mt. Airy

Roy B. McKnight, M.D., Hawthorne Medical Center, Charlotte
Ralph J. Sykes, M.D., 205 Rawley Avenue, Mt. Airy

51. Legal Liaison Committee to Work with the North Carolina Bar Association (6)

Theodore S. Raiford, M.D., Chairman, 20 Battery Park Avenue, Asheville
John F. Owen, M.D., 510 Professional Bldg., Raleigh
Thomas W. Baker, M.D., 1012 Kings Drive, Charlotte
Bennette B. Pool, M.D., 414 Nissen Bldg., Winston-Salem
Charles P. Graham, M.D., 304 N. 11th Street, Wilmington
Daniel S. Currie, Jr., M.D., 302 Old Street, Fayetteville

52. Liaison Committee to the North Carolina Pharmaceutical Association (5)

Ralph B. Garrison, M.D., Chairman, 222 W. Main Street, Hamlet
Joseph B. Warren, M.D., Oriental
Charles R. Welfare, M.D., 417 Nissen Bldg., Winston-Salem
Wm. A. Greene, M.D., 104 E. Commerce Street, Whiteville
James Allan Whitaker, M.D., 144 Coast Line Street, Rocky Mount

53. Committee on Medical Care Armed Forces Dependents (5)

David M. Cogdell, M.D., Chairman, 911 Hay Street, Fayetteville
Daniel S. Currie, Jr., M.D., 302 Old Street, Fayetteville
James DeCamp Piver, M.D., 209 Bayshore, Jacksonville
Joseph F. Patterson, M.D., 1402 Rhem Avenue, New Bern
Everett I. Bugg, Jr., M.D., Broad & Inglewood Streets, Durham

54. Committee on Crippled Children (6)

Alexander Webb, Jr., M.D., Chairman, 221 Bryan Bldg., Raleigh
L. B. Mason, M.D., 1006 Murchison Bldg., Wilmington
C. F. Siewers, M.D., 1004 Hay Street, Fayetteville
Isaac E. Harris, Jr., M.D., 1200 Broad Street, Durham
George W. Holmes, M.D., 620 Nissen Bldg., Winston-Salem
J. Stuart Gaul, Jr., M.D., Hawthorne Bldg., Charlotte

55. Committee to Survey Committee Structure (4)

Edward W. Schoenheit, M.D., Chairman, 46 Haywood Street, Asheville
O. Norris Smith, M.D., 363 N. Elm Street, Greensboro
John S. Rhodes, M.D., 700 W. Morgan Street, Raleigh
John C. Reece, M.D., Grace Hospital, Morganton

56. Committee on Scientific Exhibits (3)

Everett I. Bugg, Jr., M.D., Chairman, Broad & Englewood, Durham
R. B. Raney, M.D., N. C. Memorial Hospital, Chapel Hill
Manson Meads, M.D., Bowman Gray School of Medicine, Winston-Salem

57. Committee on Uniform Medical Insurance Report Forms (4)

George W. Paschal, Jr., M.D., Chairman, 311 Lands Bldg., Raleigh
Frank W. Jones, M.D., Catawba Hospital, Newton
Walter S. Hunt, Jr., M.D., 309 Hillsboro Street, Raleigh
Julian Jacobs, M.D., 121 W. 7th Street, Charlotte

BULLETIN BOARD

COMING MEETINGS

New Hanover County Medical Symposium—Lumina ballroom, Wrightsville, Friday, August 3.

North Carolina Heart Association, Annual Meeting—Battery Park Hotel, Asheville, September 15, 16.

Mississippi Valley Medical Society, Twenty-First Annual Meeting—Hotel Morrison, Chicago, September 26-28.

American Medical Writers' Association, Thirteenth Annual Meeting—Hotel Morrison, Chicago, September 28-29.

American Congress of Physical Medicine and Rehabilitation, Thirty-Fourth Annual Scientific and Clinical Sessions—The Ambassador, Atlantic City, New Jersey.

Tennessee Valley Medical Assembly—Read House, Chattanooga, October 1-2.

Postgraduate Medical School of New York University — Bellevue Medical Center, Eight-Week Course in Occupational Medicine—New York City, September 10-November 2.

American Rhinologic Society—Annual Meeting—Chicago, October 9-13.

American College of Gastroenterology, Annual Postgraduate Course in Gastroenterology — Hotel Roosevelt, New York, October 18-20.

NEWS NOTES FROM THE DUKE UNIVERSITY SCHOOL OF MEDICINE

The psychiatry department of Duke University Medical School has been awarded a $211,000 research grant by the National Institute of Mental Health, it was announced recently.

The grant will provide for a five-year continuation of research on the effect of aging upon the physiologic and psychologic functioning of elderly people.

Dr. Ewald W. Busse, chairman of the Duke psychiatry department, is chief investigator for the project. Working with him will be a research team composed of some 16 faculty members, research workers, and graduate students.

The research here is a continuation of work initiated in 1950 by Dr. Busse and his associates, then at the University of Colorado. Its primary goal is to provide a better understanding of the changes which take place in normal people as they become older.

News Notes from the University of North Carolina School of Medicine

Contributions have been made recently to the Memorial Fund of the Medical Foundation of North Carolina, Inc. in memory of the late Robert E. Little of Wadesboro, it has been announced by Dr. Paul F. Whitaker, president of the Medical Foundation. The contributions honoring Little were given by Collier Cobb, Jr. of Chapel Hill and Major L. P. McLendon of Greensboro.

The Memorial Fund of the Medical Foundation was established last year by Mrs. Robert M. Hanes of Winston-Salem with a contribution in memory of the late Dr. Donnell Borden Bobb of Goldsboro.

"Monies contributed to the Memorial Fund of the Medical Foundation will be used in medical education and research conducted under the auspices of the University of North Carolina Medical School," Dr. Whitaker said.

The purpose of the Memorial Fund is to provide a fund to which anyone might contribute in memory of a loved one.

* * *

Dr. Carl W. Gottschalk, assistant professor of medicine at the University of North Carolina, has been named winner of the John Horsley Memorial Prize of the University of Virginia.

The award is made every two years. Dr. Gottschalk, a native of Salem, Virginia, is a 1945 graduate of the University of Virginia Medical School.

The prize was awarded to Dr. Gottschalk at the annual Scientific Dinner of the medical alumni of Virginia. Income for the prize comes from the interest of an endowment set up by Dr. J. Shelton Horsley in memory of his father.

Dr. Gottschalk joined the U.N.C. Medical School staff in 1952.

* * *

Planning sessions for postgraduate medical courses were held recently in Asheville and Morganton for postgraduate courses to be offered during the fall, it was announced by Dr. W. P. Richardson, assistant dean for Continuation Education. The Morganton Postgraduate Medical Course will be held on Wednesday afternoons and evenings for six weeks beginning September 19, and the Asheville Postgraduate Medical Course will be offered Thursday afternoons and evenings for six weeks beginning September 20 (excluding the week of the Tenth District Medical Society Fall Symposium). Dr. William H. Kibler is the chairman for the planning committee for the Morganton Course, and Dr. Leon H. Feldman is chairman of the planning committee for the Asheville Course.

* * *

Dr. Sydenham B. Alexander recently was named assistant administrator of the Division of Health Affairs of the University of North Carolina, it was announced by Chancellor Robert B. House and Dr. Henry T. Clark, Jr., administrator of the Division.

A clinical assistant professor of medicine in the School of Medicine since 1953, Dr. Alexander has been associate physician in the University infirmary the past seven years.

A native of Charlotte, Dr. Alexander is a graduate of the University in the class of 1941, attended the School of Medicine here, and received his M.D. degree at the Medical College of Virginia in Richmond in 1944. During World War II he was on destroyer duty in the Pacific and during the Korean emergency served as chief of Diagnostic Services and chief of Cardio-Vascular Service of the U. S. Naval Hospital in Portsmouth, Virginia.

* * *

The 59 graduates of the 1956 class of the U.N.C. School of Medicine have pledged themselves to contribute $100 each during the next five years to the Medical Foundation of North Carolina, Inc.

Lee Andrew Clark, Jr. of Everetts, president of the graduating class, said that these funds will be used by the Medical Foundation to provide for various needs of the medical school in areas of aid to students, scholarships, and research.

Dr. Clark said his class was genuinely interested in providing the Medical School with a few of those needs for which support is not available in state appropriations or from other sources, and which mean "the difference between just an ordinary medical school and a truly excellent one."

* * *

Dr. Robert A. Ross, professor and chairman of the Department of Obstetrics and Gynecology, is guest editor of the current issue of the **Bulletin of Maternal Welfare.**

The journal is published every other month in Chicago by the American Committee on Maternal Welfare.

Other members of the U.N.C. medical faculty whose articles appear in the current journal are Drs. James F. Donnelly, Deborah C. Leary, Hugh A. McAllister, and Charles E. Flowers, Jr.

* * *

Dr. George D. Penick, assistant professor, Department of Pathology, U.N.C. School of Medicine, has been given a travel award of $500 to attend the Twentieth International Physiological Congress in Brussels, Belgium, meeting from July 30 through August 4.

The Federation of American Societies for Experimental Biology made the award on the basis of Dr. Penick's paper entitled "Studies on Inactivation of Antihemophilic Factor in Clotting Plasma Systems," which he will present at the Congress.

Dr. Penick's work helps explain deficiencies of this anti-hemophilic factor in some disease states of non-hemophiliacs that are associated with bleeding tendencies.

A native of Raleigh, he is the son of the Rt. Rev. Edwin A. Penick, Bishop of the Episcopal Diocese of North Carolina, and Mrs. Penick. Dr. Penick received the B.S. degree from U.N.C. in 1944 and the M.D. degree from Harvard University in 1946.

Rheumatic heart disease was the cause of more deaths during the past year than was tuberculosis, Dr. James Watt, director of the National Heart Institute of the U. S. Public Health Service, told a Chapel Hill medical audience recently.

Speaking at the Symposium on Rheumatic Fever Control for County Health Officers at the University of North Carolina Medical School, Dr. Watt went on to say that the need for multiple sources of support is great in fighting this disease.

Other speakers in the two-day symposium were: Dr. J. W. R. Norton of Raleigh, State Health Officer; three directors of hospital rheumatic fever clinics: Dr. Robert L. Vann, N. C. Baptist Hospital, Winston-Salem; Dr. Jerome S. Harris, Duke Hospital; and Dr. Edward C. Curnen, N. C. Memorial Hospital; Dr. John C. Cassel, U.N.C. Public Health School epidemiologist; Dr. Robert L. McMillan, cardiologist from Bowman Gray School of Medicine in Winston-Salem; Dr. Roger Howell, U.N.C. professor of mental health; Dr. James F. Donnelly, State Board of Health obstetric consultant; Dr. Samuel F. Ravenel, Greensboro pediatrician; Dr. Charles E. Flowers, Jr., U.N.C. obstetrician; Dr. Charles B. Kendall; Dr. Walter C. Humbert, Pitt County Health Officer; Miss Ruth Council of the Crippled Children's Section, State Board of Health; and Miss Julia Fisher, supervising nurse, Pitt County Health Department.

News Notes from the Bowman Gray School of Medicine of Wake Forest College

Dr. Martin G. Netsky, professor of neuropathology and associate professor of neurology, attended the meeting of the American Association of Neuropathologists in Atlantic City on June 16-17, at which time he gave a paper "The effect of single doses of x-radiation on experimentally induced gliomas." He also attended the sessions of the American Neurological Association on June 18-20.

* * *

A Seminar on Gastroenterology, sponsored by the division of postgraduate education of the College of Medicine of the University of Florida, was held in Jacksonville on June 21-23. Dr. David Cayer, professor of gastroenterology at the Bowman Gray School of Medicine, together with Dr. E. Clinton Texter, Jr., associate professor of medicine and director of the gastroenterology laboratory at Northwestern University Medical School, presented a series of lectures. Among the topics discussed by Dr. Cayer were: "Needle aspiration liver biopsy, diagnostic and therapeutic aspects," "Differential diagnosis of jaundice," "Cancer of the pancreas," "Acute pancreatitis," and "Hepatic insufficiency."

* * *

Twenty-five physicians registered for a two-day postgraduate course in cardiovascular diseases here on June 27-28. The faculty included Dr. Robert L. McMillan, professor of clinical medicine who also served as co-ordinator of the course; Dr. Emery C. Miller, instructor in internal medicine; Dr. C. Glenn Sawyer, assistant professor of internal medicine; Dr. Richard K. Young, director of the Department of Pastoral Care of the North Carolina Baptist Hospital; Dr. Merrill Spencer, assistant professor of physiology and pharmacology; Dr. Frank R. Johnston, assistant professor of surgery.

North Carolina Academy of General Practice

Mecklenburg County Chapter

On Thursday, November 8, at the Hotel Charlotte, the Mecklenburg County Chapter of the North Carolina Academy of General Practice is sponsoring a Symposium on Abdominal Conditions. There will be six speakers, all of national prominence. The moderators for the sessions will be Dr. C. C. Carpenter, dean of Bowman Gray Medical School, Winston-Salem; and Dr. W. R. Berryhill, dean of the University of North Carolina Medical School, Chapel Hill. The speakers and their subjects are listed below:

"Technique and Value of Sigmoidoscopy"—Dr. J. P. Nesselrod, assistant professor of surgery, Northwestern Medical School, Chicago, "Detection of Ectopic Pregnancy"—Dr. Lewis I. Post, instructor in obstetrics, Tulane Medical School, New Orleans, "Unexpected Abdominal Conditions in Infancy and Childhood"—Dr. Orvar Swenson, professor of pediatric surgery, Tufts School of Medicine, Boston, "Non-penetrating Abdominal Injuries"—Dr. N. Frederick Hicken, professor of clinical surgery, University of Utah Medical School, Salt Lake City, "Management of the Jaundiced Patient" ——Dr. Paul S. Rhoads, professor of medicine, Northwestern Medical School, Chicago.

Postgraduate Seminar Cruise

Governor Luther H. Hodges, who, when the history of this period is written, will go down as a leader of "North Carolinians in action," has expressed keen appreciation of the fact that the University of Pennsylvania Medical School has chosen Wilmington as its port of embarkation for its postgraduate seminar cruise, which will begin November 17, aboard the Swedish luxury liner M.S. Stockholm. "Now that we have developed our port facilities," he said, "we should all join in putting them to use, for both pleasure and profit."

The chief executive also said he was going to write Dr. John McK. Mitchell, dean of the Pennsylvania Medical School and, as Governor of North Carolina, extend to him and his medical colleagues an advance welcome to this state. He expressed the hope that, taking advantage of this oppor-

tunity, many North Carolinians will join those from other states for the Caribbean Cruise.

The Allen Travel Service, Incorporated, 550 Fifth Avenue, New York 36, is handling the transportation arrangements and reservations.

The medical program will constitute twenty-five hours of acceptable Category I postgraduate requirements of the American Academy of General Practice. Medical details may be secured by addressing Dr. Mayock, assistant professor of clinical medicine, University of Pennsylvania, Philadelphia.

North Carolina Conference of Tuberculosis Workers

At the conclusion of the fiftieth annual meeting of the North Carolina Tuberculosis Association, the ninth annual meeting of the North Carolina Trudeau Society, and the tenth annual meeting of the North Carolina Conference of Tuberculosis Workers, new leaders emerged to guide the activities of the three organizations for the 1956-1957 fiscal year in their mutual efforts to eliminate tuberculosis from the state.

E. N. Pope of Raleigh is the new president of the North Carolina Tuberculosis Association. The other officers are Dr. C. D. Eatman, Rocky Mount, president-elect; A. L. Bechtold, Charlotte, vice-president; Mrs. Roy Parker, Ahoskie, secretary; and T. W. Steed, Raleigh, treasurer.

The 1956-1957 officers of the North Carolina Trudeau Society, medical section of the NCTA, are Dr. C. Hege Kapp, Winston-Salem, president; Dr. B. E. Morgan, Wilson, vice president; and Dr. Robert F. Young, Halifax, secretary-treasurer.

Officers of the NCCTW who will serve for two years are Mrs. Baxter Durham, Raleigh, president; Mrs. Josie Haynes, Albemarle, vice president; and Edwin Moline, Charlotte, secretary-treasurer. Member-at-large on the executive committee is Addie M. Darden, Raleigh.

North Carolina Heart Association

The annual meeting of the North Carolina Heart Association will be held at the Battery Park Hotel in Asheville on September 15 and 16. For the first time the Association will hold an independent scientific session. It will take place on the afternoon of September 15 under the chairmanship of Dr. James V. Warren of Duke. Featured speakers will be Dr. Robert W. Wilkins, president of the Massachusetts Heart Association and vice president of the American Heart Association. Theme of the session will be "Prevention of Coronary Heart Disease," and a number of papers will be given by physicians and heart research workers throughout the state. All physicians are invited to attend this and other sessions of the Association.

Other features of the two-day meeting will include a program on health education under the chairmanship of Dr. William Fleming of the University of North Carolina, scheduled for Saturday morning, September 15; a banquet Saturday night, at which Dr. Wilkins will give another address; and a session on fund-raising Sunday morning, September 16, followed by a luncheon and the annual business meeting, which will feature another prominent guest speaker.

During the scientific session, films will be shown for lay guests. The Board of Directors of the Association will meet at dinner the evening of September 14.

Durham-Orange County Medical Society

The Durham-Orange County Medical Society held its bi-monthly dinner meeting June 13 at the Hope Valley Country Club in Durham at 7 p.m. The president, Dr. Kenneth Brinkhous of the University of North Carolina, Chapel Hill, presided. The evening's speaker was Dr. Weston LaBarre, associate professor of sociology and anthropology at Duke University. His subject was "An Anthropologist Looks at Race." Among his statements were that all races have a mixed endowment of advanced and primitive traits. No race is inferior or superior. There is no such thing as a pure race. There is really only one race biologically speaking: the human race. A mixtures of cultures produces the most advanced cultures. Man should be judged as an individual, not on his heredity. Racial "snobbery" is not justified.

Louis Foote Stanford, M.D., Chairman
Public Relations Committee

Edgecombe-Nash Medical Society

Dr. Tom Suiter had charge of the program at the regular meeting of the Edgecombe-Nash Medical Society held in Rocky Mount on June 6. Drs. J. L. Lane and M. J. Fleming were awarded 50-year service pins.

News Notes

Dr. Ira Gordon Early has announced the opening of his office for the practice of internal medicine at 1415 West First Street, Winston-Salem.

* * *

Dr. Marcus M. Gulley has opened his office for the practice of psychiatry at 1417 West First Street in Winston-Salem.

* * *

Dr. Harold R. Hoke has announced the opening of his office at 614 North Hamilton Street, High Point, for the practice of obstetrics and gynecology.

* * *

Dr. Lonnie Waggoner, Jr., with offices at 212 West Second Street in Gastonia, has announced that Dr. John D. Wallace, Jr., will hereafter be associated with him in the practice of internal medicine.

American College of Gastroenterology

The American College of Gastroenterology announces that its annual course in postgraduate gastroenterology will be given at The Roosevelt in New York City, on October 18, 19, and 20.

The course will again be under the direction and co-chairmanship of Dr. Owen H. Wagensteen, professor of surgery of the University of Minnesota Medical School, who will serve as surgical co-ordinator and Dr. I. Snapper, director of medical education, Beth-El Hospital, Brooklyn, New York, who will serve as medical co-ordinator. Drs. Wangensteen and Snapper will be assisted by a distinguished faculty selected from the medical schools.

The subject matter to be covered, from a medical as well as surgical viewpoint, will cover, essentially, the advances in diagnosis and treatment of gastrointestinal diseases and a comprehensive discussion of diseases of the mouth, esophagus, stomach, pancreas, spleen, liver and gallbladder, colon, and rectum, with special studies of radiology and gastroscopy.

For further information and enrollment write to the American College of Gastroenterology, Department P.G., 33 West 60th Street, New York 23, New York.

American College of Physicians

Mr. Edward R. Loveland, Philadelphia, for more than 30 years executive secretary of the American College of Physicians, has been made an Honorary Fellow of the College. He is the only layman ever so honored.

American Hearing Society

Herschel W. Nisonger, director of Special and Adult Education, Ohio State University, was re-elected president of the American Hearing Society at the agency's thirty-seventh annual meeting at the Willard Hotel, Washington, June 7-9.

Also re-elected to national offices were Mrs. Harry W. Rubel, Los Angeles, first vice president; Walter C. Laidlaw, executive vice president, United Foundation of Metropolitan Detroit, second vice president; Harley Z. Wooden, executive secretary, International Council for Exceptional Children, Washington, treasurer. E. B. Whitten, executive director National Rehabilitation Association, Washington, was elected assistant treasurer, and Mrs. Fred C. Nelson, St. Paul, Minnesota, secretary.

Among 130 persons attending the Society's three-day meeting were national directors, members, and executives of chapters from 28 states. Officers elected by the National Association of Executives (of chapters) were as follows: Cletus G. Fisher, Dayton Hearing and Speech Center, chairman; Mrs. Helen S. Lowry, Hartford Hearing League, vice chairman; Harold N. Williams, Nashville League for the Hard of Hearing, secretary, and Frederick J. Artz, Seattle Hearing and Speech Center, treasurer.

American College of Surgeons

Organization of the Commission on Professional and Hospital Activities, Inc., was announced here today by the American College of Surgeons, American Hospital Association, American College of Physicians, and the Southwestern Michigan Hospital Council.

The organizations established the Commission to conduct medical statistical service that will help hospitals simplify medical records and analyze records more effectively for improvement of medical and administrative practices, it was explained.

The Commission has received a grant of $260,000 from the W. K. Kellogg Foundation, Battle Creek, Michigan, to support the program for three years, after which it is expected the service may be continued on a self-sustaining basis.

Representatives at large on the Commission are: Rt. Rev. Msgr. Donald A. McGowan, Director of the National Catholic Welfare Conference, Washington, D. C., and Dr. Luther C. Carpenter, a Grand Rapids, Michigan, surgeon.

Officers elected were Dr. Paul R. Hawley, president, Dr. Edwin L. Crosby, treasurer, and Dr. Vergil N. Slee, secretary and director. The Commission will established its headquarters and conduct its services at Ann Arbor, Michigan.

American College of Chest Physicians

The twenty-second annual meeting of the American College of Chest Physicians was held at the Hotel Sherman, Chicago, Illinois, June 6-10. More than 1,400 physicians and guests attended the meeting. Fellowship certificates were presented to 250 physicians at the Convocation held on Saturday, June 9.

Dr. Henry C. Sweany, director of research, pathology and allied sciences, Missouri State Sanatorium, Mt. Vernon, was awarded the College Medal for his outstanding contributions in the field of chest pathology.

The following officers were elected for the year 1956-1957: President, Herman J. Moersch, Rochester, Minnesota; president-elect, Burgess L. Gordon, Philadelphia; first vice president, Donald R. McKay, Buffalo, New York; second vice president, Seymour M. Farber, San Francisco; treasurer, Charles K. Petter, Waukegan, Illinois; assistant treasurer, Albert H. Andrews, Chicago; chairman, Board of Regents, John F. Briggs, St. Paul, Minnesota; historian, Carl C. Aven, Atlanta.

Dr. Ralph E. Moyer, Oteen, was elected Governor of the College for North Carolina. Drs. Frederick R. Klenner, Reidsville, and John E. Rayl, Oteen, received their Certificates of Fellowship in the College at the Convocation on June 9.

Pan-American Surgical Association

The seventh Congress of the Pan-Pacific Surgical Association will be held in Honolulu, Hawaii, November 14-22, 1957. All members of the profession are cordially invited to attend and are urged to make arrangements as soon as possible if they wish to be assured of adequate facilities.

An outstanding scientific program by leading surgeons with sessions in all divisions of surgery and related fields promises to be of interest to all doctors.

Further information and brochures may be obtained by writing to Dr. F. J. Pinkerton, director general of the Pan-Pacific Surgical Association, Room 230, Young Building, Honolulu, Hawaii.

The Ford Foundation

Appointment of a special committee to recommend a plan for distribution of a previously announced appropriation of $90,000,000 to the nation's privately supported medical schools was announced today by H. Rowan Gaither, Jr., chairman of the board and president of The Ford Foundation.

Lee Dubridge, president of the California Institute of Technology, will serve as chairman of the medical school grants advisory committee. Executive vice chairman will be Carlyle Jacobsen, executive dean for medical education, State University of New York. Among the members of the advisory committee is Robert M. Hanes, president of the Wachovia Bank and Trust Company, Winston-Salem.

The $90,000,000 appropriation has been designated by The Ford Foundation's Board of Trustees to be used as endowment by the privately supported medical schools in the strengthening of their instruction. Allocations to individual institutions will be determined by the trustees after the advisory committee has completed its report.

The appropriation is part of the $500,000,000 announced in December, 1955, for college faculty salaries, private hospitals and medical schools, and is entirely apart from the $10,000,000 appropriated on April 15 to the National Fund for Medical Education.

The World Medical Association

The twenty-sixth Council Session of The World Medical Association convened in Cologne, Germany, April 29—May 5, named the following persons to fill existing vacancies: president-elect, Dr. José A. Bustamante (Cuba), chairman of the Council of the Pan American Medical Confederation; and council member, Dr. Hector Rodriguez (Chile), secretary of the Colegio Medico de Chile (Chile Medical Association) and currently regional secretary for Latin America for The World Medical Association.

The Council appointed Dr. J. A. L. Vaughan-Jones (U.K.) chairman of The World Medical Association Committee on International Occupational Health Services. The former chairman, Dr. Carl Peterson (U.S.A.) died while in office. Dr. B. Dixon Holland (U.S.A.) was named as a member of this Committee.

The twenty-sixth Council Session adopted two principles relative to medical ethics and medical law as a result of its own efforts in a joint committee studying the subject of international medical law, and the proposed organization of an International Organization on Medical Ethics and Medical Law with national chapters. This new organization would be composed of sociologists, jurists, and philosophers in addition to doctors, and its aim is to codify the principles of medical ethics.

These principles are:

1. **The Same Ethical Code must Govern The Doctor In Both Peace and War.**
2. **It Is The Function of the World Medical Association to Formulate Any Code of International Medical Law and Not the Function of Laymen Even Though They Be Lawyers.**

The Council is of the opinion that The World Medical Association should be unalterably opposed to the attempts of outside groups entering a field in which they are not competent.

U. S. Department of Health, Education, and Welfare

The value of the natural adrenal steroid, hydrocortisone, and the synthetic steroid, prednisone, in the treatment of nephrosis has been confirmed by clinical studies at the Public Health Service's National Heart Institute.

Drs. Howard C. Goodman, James H. Baxter, Hans Kietel, and Jack Orloff recently treated 18 nephrotic patients by oral administration of either hydrocortisone or prednisone for one to two months. Fourteen of these patients responded favorably, and, though 4 later relapsed, further steroid therapy has again led to relief of their symptoms.

Prednisone is about four times as potent as hydrocortisone, and the two steroids were found to be equally effective in appropriate doses.

The researchers caution that the steroids used are not infallible cures, nor are they free of unwanted side effects. Skin rashes and temporary emotional disturbances were seen when the steroids were decreased or discontinued.

* * *

The National Institute of Neurological Diseases and Blindness, of the National Institutes of Health, U. S. Public Health Service, has initiated a program of Special Traineeships for those who have completed residency training or its equivalent in a medical specialty and desire further training for careers as clinical investigators and educators in fields of neurological and sensory disorders.

This program complements the institute's program of training grants to institutions to aid them in establishing, expanding, and improving residency

training programs in specialties related to neurological and sensory disorders.

Applications for these awards may be made for training at any appropriate institution either in this country or abroad. Information on program and stipends, together with application forms may be secured from the Chief, Extramural Programs, National Institute of Neurological Diseases and Blindness, National Institutes of Health, Bethesda 14, Maryland

Department of the Army

A new vaccine has been developed which has been found to reduce the incidence of hospitalized cases of respiratory disease among recruits by more than 80 per cent, according to a preliminary report to The Surgeon General, the Department of the Army announced recently.

The new vaccine, which reaches its maximum effectiveness within a week after administration, was developed and prepared by the Department of Respiratory Diseases, headed by Dr. Maurice R. Hilleman, at the Walter Reed Army Institute of Research, Washington, D. C. It was evaluated in soldiers at Fort Dix, New Jersey, by a field team headed by Major Reuel A. Stallones and Dr. Ross L. Gauld of the Department of Epidemiology at the Institute.

The new vaccine promises to reduce the number of cases of the acute respiratory illness which have always been a major medical problem to the Armed Forces.

Veterans Administration

Veterans Administration today announced it soon will conduct one of the first large-scale cooperative projects investigating the value and usage of the new tranquilizing drugs for mental illness.

Dr. Jesse F. Casey, director of VA's psychiatry and neurology service in Washington, D. C., said the research is expected to provide the answers to many questions not now available to medical science.

* * *

Veterans Administration has authorized all field stations to discontinue, at their discretion, any commercial-industrial activity which can be supplied by private enterprise "able and willing to do so."

Harvey V. Higley, Administrator of Veterans Affairs, said the authorization is based on the President's policy which requires that private enterprise be given full opportunity to supply VA needs for goods and services.

Mr. Higley instructed the field stations to negotiate with any private firm which expresses definite interest in furnishing goods or services at specific locations, such as bakery goods, cleaning and pressing, ice cream and ices, and biologic products.

* * *

A two-year clinical investigation by 11 Veterans Administration hospitals finds that isoniazid (INH), one of the so-called "wonder drugs" for the treatment of tuberculosis, has no beneficial effect on multiple sclerosis.

The report was made by Dr. Benedict Nagler, chief of VA's neurology service and chairman of the VA cooperative study, before the American Neurological Association meeting in Atlantic City, New Jersey.

World Health Assembly

The ninth World Health Assembly met in Geneva, Switzerland, May 8-26. May 8 in the Palais des Nations, Geneva.

The main purpose of the Assembly was (1) to review and examine the health work assisted by WHO in over 100 countries and territories, (2) to plan future activities both in the traditional and in the new fields in which WHO's help is requested, and (3) to adopt a budget for 1957.

The President of the eighth World Health Assembly was Dr. Ignacio Morones Prieto, Minister of Health and Welfare, Mexico. As outgoing President, Dr. Morones opened the ninth assembly.

Institute of Life Insurance

Formation of the Health Insurance Institute, to speak for the companies in the health insurance business, has been announced at its offices at 488 Madison Avenue, New York. It will be the public relations arm of the Health Insurance Association of America, which was established last April by 243 life and casualty insurance companies writing health insurance policies.

The Institute will operate under the direction and policy control of the association's Public Relations Committee, the chairman of which is Frank S. Vanderbrouk, president of the Monarch Life Insurance Company, Springfield, Massachusetts.

James R. Williams, for the last three years director of public relations of the Health and Accident Underwriters Conference, Chicago, has been named vice president of the Health Insurance Institute. His election took place at a meeting of the board of directors of the Institute of Life Insurance, which is to make available its experience and facilities to the new institute.

Mr. Williams joined the Health and Accident Underwriters Conference in 1947 as editor in charge of publications. He was advanced to assistant director of public relations in 1949 and four years later to director with responsibilities for all public relations activities of the association. He is a vice chairman of the Health Insurance Council and has participated in many forums on health insurance sponsored by national and state hospital and medical groups.

Mr. Williams is a native of Minnesota and a

graduate of Macalester College, St. Paul. He served overseas during World War II and was demobilized in 1945 with the rank of captain.

Mead Johnson Exhibit Wins Top Honors

A scientific exhibit sponsored by Mead Johnson & Company and St. Mary's Hospital of Evansville won top national honors for presentation and correlation of facts at the American Medical Association convention in Chicago, June 11 to 15.

The award, the Billings Gold Medal, was presented to Dr. W. D. Snively, Jr., vice president and medical director of Mead Johnson, by Dr. Thomas Hull, director of scientific exhibts for the A.M.A., in ceremonies at the convention.

Entitled "The Body Fluids in Clinical Practice," the exhibit was presented by Dr. Snively and Dr. Michael J. Sweeney, associate medical director of the firm. Miss Martha Wessner, Mead supervisor of dietetic services, collaborated with the two physicians in preparation of the exhibit.

The prize-winning exhibit outlines a simplified system of fluid therapy which uses body surface area as a yardstick for dosage determination. A book on the system by the two doctors was published recently.

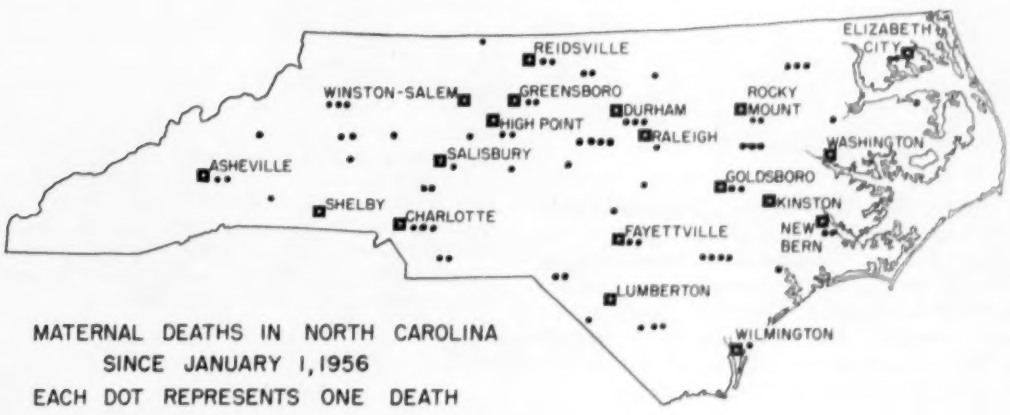
The Month in Washington

Before the end of the year hundreds of thousands of dependents of military personnel, living in all parts of the country, should be receiving their medical care from private physicians and in private hospitals under the new program authorized this year by Congress. While Defense Department has not yet completed regulations to implement the act, the law itself lays down the basic principles governing the program.

The House Armed Services Committee first attempted to decide on a system or systems for furnishing private care, through Blue Cross, Blue Shield, arrangements with state medical societies, commercial insurance or "home town care," such as Veterans Administration successfully employs. But the committee gave up on the problem, and Congress finally tossed it to the Secretary of Defense by stating in the bill that he shall ". . . after consultation with the Secretary of Health, Education, and Welfare . . . contract for medical care for such persons . . . under such insurance, medical service or health plan or plans as he deems appropriate." A Defense Department task force now is attempting to decide how to work out the contracts.

Although several groups of dependents will be entitled to medical care, only wives (or husbands) and children of men on active duty will be certified for civilian care. The others will be admitted to military medical facilities on "availability of space" basis. While generally spouses and children of active duty personnel will have a choice of private or military care, there is this limitation: The Secretary of Defense may designate certain areas where private care will not be authorized, if in his opinion those areas have military facilities adequate to care for the service families.

Dependents will be required to pay the following charges: For care in military facilities, subsistence and "in-hospital" charges (set by Secretary of Defense and currently $1.75 per day); for private care, the same fees or the first $25, whichever is the larger.



The time limit on private care is 12 months, but if hospitalization still is required after this period the dependent will be protected. In this case the Defense Department will transfer the dependent to a military facility or will make direct payment to a private hospital.

Although regulations will spell out limitations and authorizations in more detail, the law makes the following provisions:

Care in military facilities to include: (1) diagnosis, treatment of acute medical and surgical conditions, treatment of "contagious diseases," immunization and maternity and infant care; (2) hospitalization for nervous and mental disorders, chronic diseases or elective medical and surgical treatments, *but only in "special and unusual cases"* and for not more than 12 months. This would be provided at the discretion of the Secretary of Defense. Dental care not authorized except in unusual cases, while abroad or at remote stations in the United States.

Private care will include: (1) hospitalization in semi-private accommodations up to one year for each admission, including all necessary services and supplies furnished by hospital; (2) medical and surgical care incident to hospitalization; (3) complete obstetric and maternity service, including prenatal and postnatal care; (4) physician or surgeon's services prior to and following hospitalization for bodily injury or surgery.

Under the private care program, some services may be furnished outside the hospital, such as surgery in a doctor's office, x-rays or laboratory tests, "but not what is normally conceived to be out-patient care." If experience shows they can be afforded, additional services may be authorized, but whatever the scope of private care, it cannot exceed that furnished in military facilities." Out-patient care will be furnished by military facilities, but "uniform minimal" charges may be imposed as a restraint on excessive demands.

Notes

Dr. Lowell T. Coggeshall, special assistant to Health, Education and Welfare Secretary Folsom, believes some "wise changes" should be made in medical economics to facilitate payment for the "spectacular" new medical services. He expressed his views in addressing a group at the University of Pennsylvania Medical School.

Russia and eight satellites, out of active participation in World Health Organization for more than six years, now are back in; they agreed to pay 5 per cent of past-due assessments over a 10-year period.

In Memoriam

LOUIS KYLE WALKER, M.D.

The Hertford County Medical Society and the staff of the Roanoke Chowan Hospital, Ahoskie, North Carolina, records the death of one of its faithful members, Dr. Louis Kyle Walker, at the age of 67, on May 24, 1956. He had been ill only a few days, having been taken with a severe pneumonitis, followed by a severe intracerebral hemorrhage.

Dr. Walker was a native of Pender County and received his medical training at the University of North Carolina and the University of Maryland, having graduated in 1911. Following this, he spent two years' internship at the University Hospital, Baltimore, Maryland, following which he took a one year's residency at Maryland General Hospital, Baltimore. Following this, he came to Ahoskie where he began his practice in 1914. Ever since that time he has played an extremely important part in the development of the medical center which we now have, and it was through his efforts, in cooperation with several more local citizens, that the Roanoke Chowan Hospital was built. He was a member of the building committee and was a most faithful supporter of all the improvements and additions to the hospital since its origin. He was extremely active in his county medical society and was president of the society at the time of his death.

Dr. Walker was extremely active in Hertford County politics as well as other civic and social organizations, playing a full part in Red Cross, cancer, and tuberculosis drives. He was also a Mason and Shriner. As a practitioner, he had an extremely active practice, and his patients were drawn from all classes of people. He was loved by one and all.

It is with a sense of extremely deep loss that we record his passing, as he will be missed by all his professional and non-professional friends, and his memory will always remain with us.

We wish to record these sentiments in the minutes of the Roanoke Chowan Hospital Staff, the Hertford County Medical Society, and the State Medical Society, and the First District Medical Society, and a copy of these resolutions will be sent to his family.

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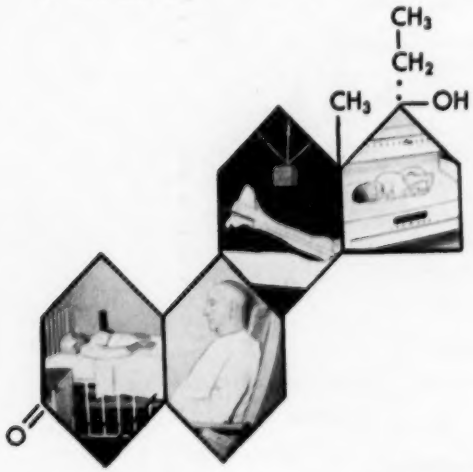

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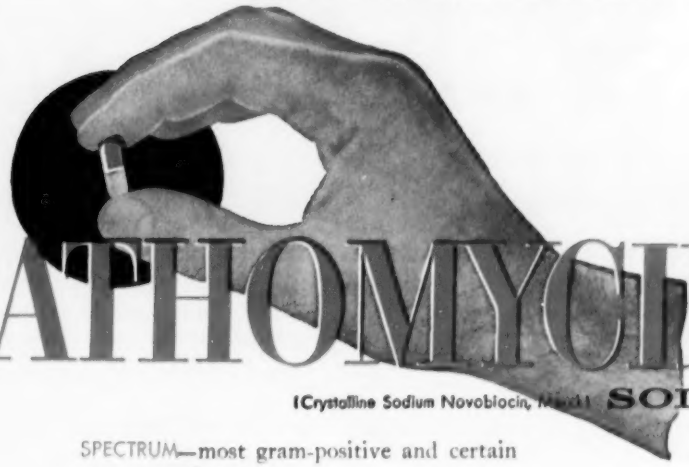

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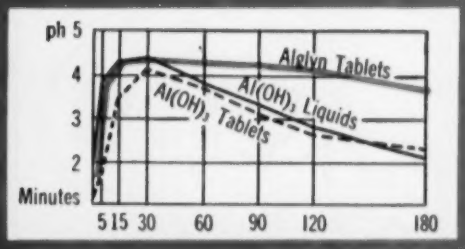

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2. Hammarlund, E.R. and Rising, L.W.: J. Am. Pharm. Assoc., Scientific Edition, 38:586, 1949.

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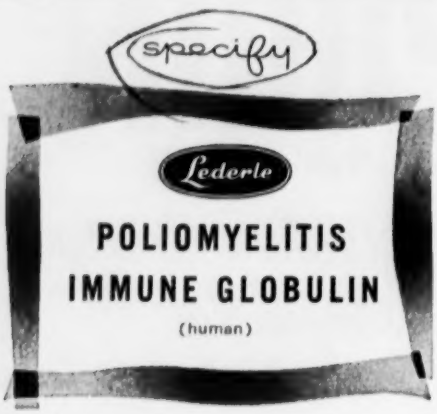

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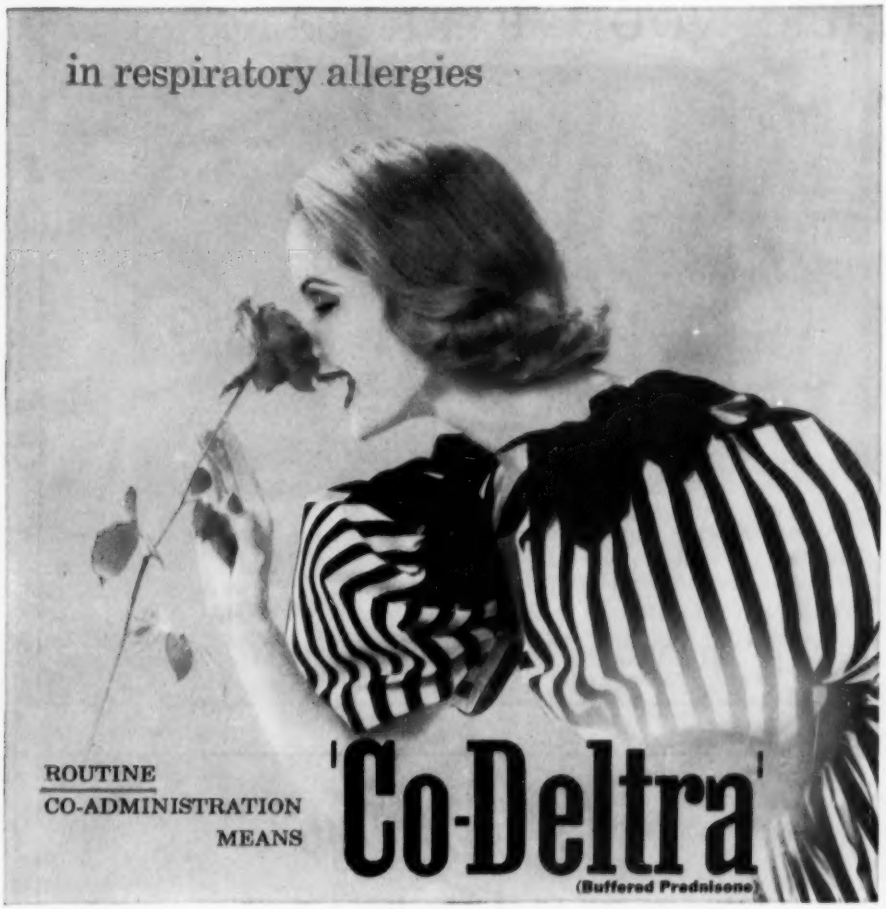

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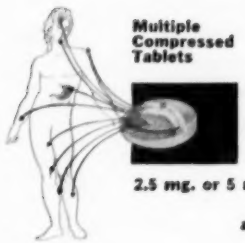

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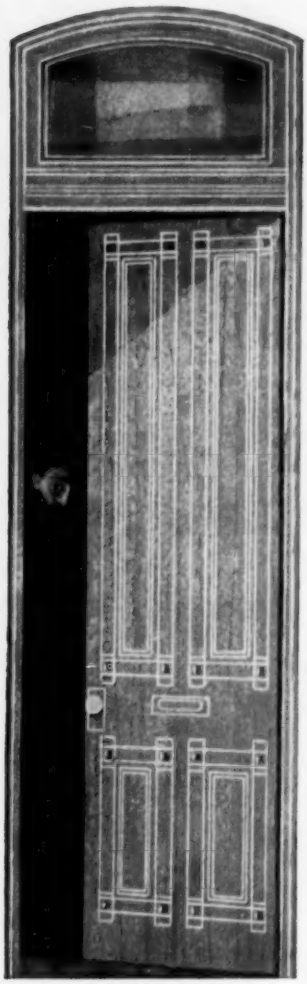

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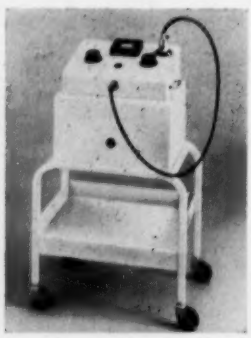

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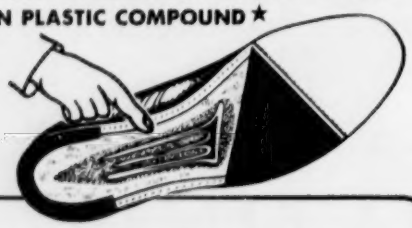

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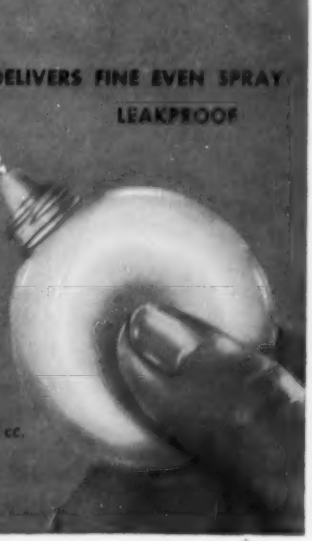

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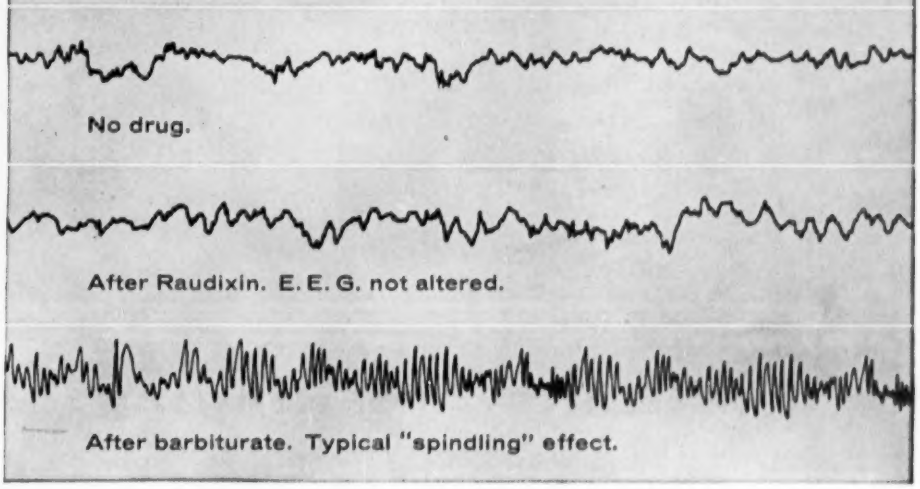

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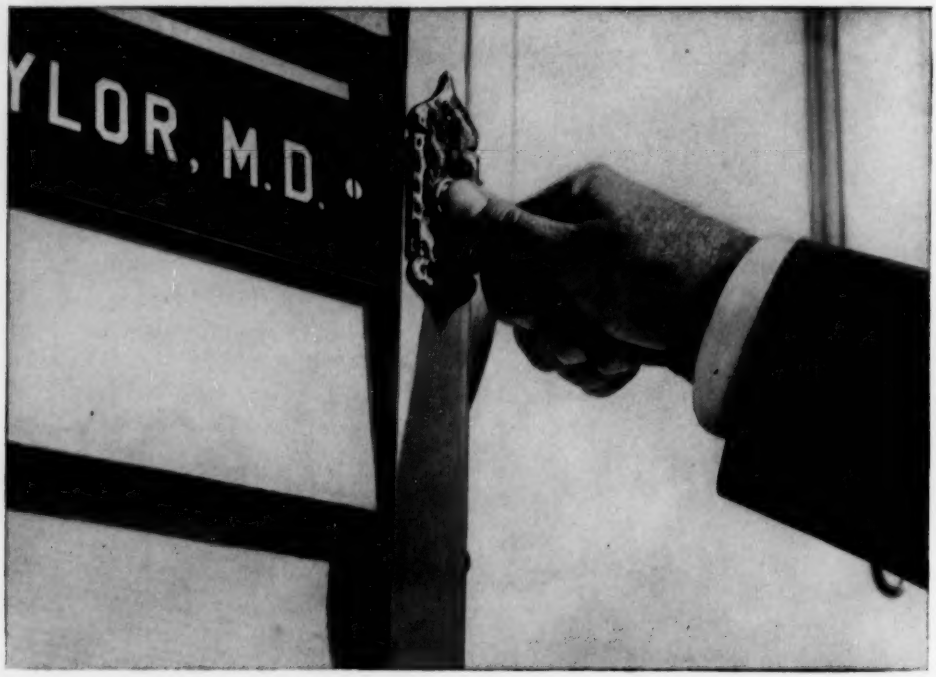

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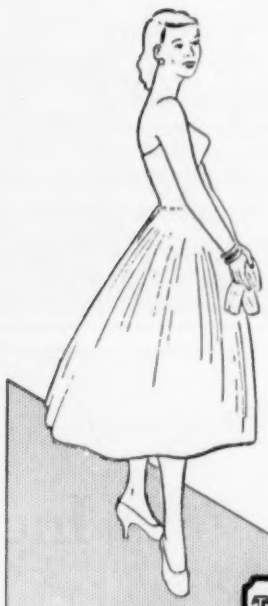

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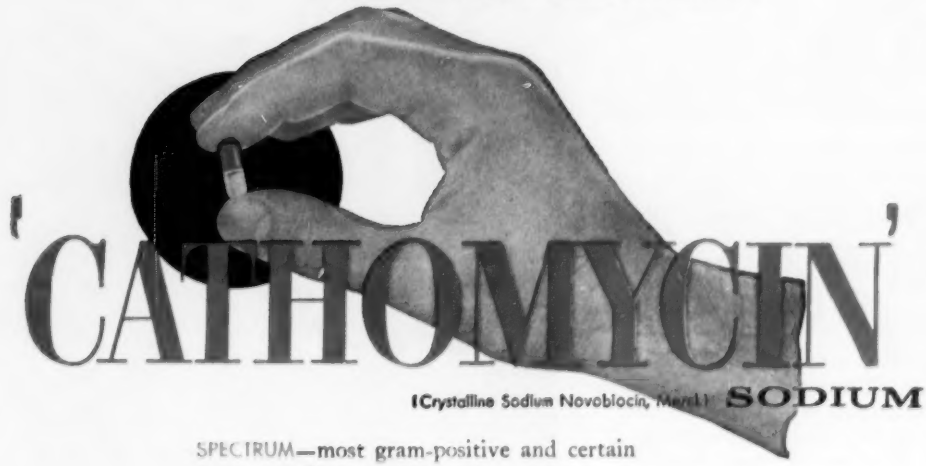

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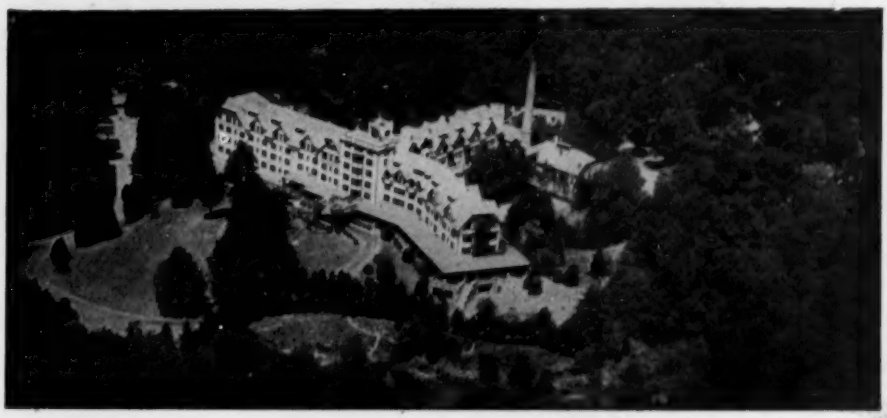

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the logical drug

to use first[1]

for petit mal epilepsy

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KAPSEALS® and SUSPENSION

five years of study confirm[2]

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MILONTIN Kapseals, 0.5 Gm., bottles of 100 and 1,000; also available as MILONTIN Suspension (250 mg. per 4 cc.) in 16-ounce bottles.

Detailed information upon request, or from your Parke-Davis representative.

1. Davidson, D. T., Jr.; Lombroso, C., & Markham, C. H.: *New England J. Med.* 253:173, 1955.
2. Zimmerman, F. T.: *New York J. Med.* 55:2338, 1955.

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*Trademark for L-triiodothyronine, S.K.F.

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